

P O M O N A :

OR, THE

Fruit-Garden Illustrated.

Containing SURE METHODS for Improving all the

Best Kinds of FRUITS

Now EXTANT in

E N G L A N D.

CALCULATED FROM

Great Variety of EXPERIMENTS made in all
Kinds of SOILS and ASPECTS.

WHEREIN

The Manner of *Raising* YOUNG STOCKS, *Grafting*, *Inoculating*,
Planting, &c. are clearly and fully demonstrated.

With DIRECTIONS,

I. For PRUNING ; wherein the *Reasons*,
Manner, and *Consequences* thereof are clearly
demonstrated.

II. For NAILING ; wherein the *true Distances*
that the Branches of FRUIT-TREES are to
be laid upon the Walls, are set forth : Being a
most important and useful Discovery, unknown
to Gardeners in general.

III. For PRESERVING their Blossoms from
the *Injuries* of *Frosts*, *Winds*, &c.

IV. RULES for the THINNING of their
young-set Fruits, so as to leave no more than
Nature can strongly support, and ripen in the
greatest Perfection.

V. For *Preserving* and *Ordering* YOUNG FRUITS,
from their *Blossom* to the Time of their
Maturity.

VI. To give them their *true Taste* and *Colour*
when fully grown, *Season of Ripening*, *Manner*
of *Gathering*, *Preserving*, &c.

Likewise several Practical OBSERVATIONS on the *Imbibing Power*
and *Perspirations* of FRUIT-TREES ; the several Effects of *Heat* and
Moisture tending to the *Growth* and *Maturity* of FRUITS.

To which is added,

A Curious ACCOUNT of the Most Valuable CYDER-FRUITS of DEVONSHIRE.

The Whole Illustrated with above Three Hundred DRAWINGS of the several FRUITS,
Curiously Engraven on Seventy-nine large Folio Plates.

By BATTY LANGLEY of TWICKENHAM.

L O N D O N :

Printed for G. STRAHAN in Cornhill ; R. GOSLING, W. MEARS, F. CLAY, D. BROWNE,
B. MOTTE, and L. GILLIVER, near Temple-bar ; J. STAGG in Westminster-Hall ;
J. OSBORN, at Gray's-Inn Gate ; and C. DAVIS in Pater-Noster-Row. M.DCC.XXIX.



TO THE
 QUEEN'S
 Most Excellent Majesty.

M A D A M,



OUR Majesty's known Goodness, and exquisite Knowledge in Horticulture, I humbly hope will excuse my Presumption in Dedicating to Your most Sacred Majesty the ensuing Work ; which I am bold to say, is an accurate Representation of Vegetable Nature in her various Productions of the most valuable Fruits now extant in this Nation : Wherein her gradual Operations, thro' their several Degrees of Growth, to their Maturity, are exactly delineated and describ'd.

[a]

TO

TO attempt a Pourtraiture of Your Majesty's Illustrious Character, would be an Undertaking superior to the greatest Genius, and intirely inexcusable in one who has made these humble, though useful, Studies, his principal Employment, and has no Capacity, besides an honest Zeal and sincere Loyalty, for so arduous a Task.

BUT as we, who have the Happiness to live in Your most auspicious Reign, behold united in Your Sacred Majesty the Perfections and Virtues of all our most Glorious Queens Your Royal Predecessors ; it would be in some measure unpardonable to omit any Opportunity to express our Gratitude for the Blessings heap'd upon us by Your Goodness.

WHILE his Sacred Majesty, our most gracious Sovereign, imploy's his important Cares for the Happiness and Prosperity of his People, both at Home and Abroad, in order to secure to them their Rights and Privileges, and to preserve and extend the Benefits of their Trade and Commerce, and is the Arbiter of *Europe* : You, MADAM, powerfully recommend to all Your Subjects, by Your own bright Example, the great Concerns of Religion and Virtue, and the Duties of a Private and Domestick Life.

B E

BE it the Task of a more elevated Genius to transmit to Posterity the Illustrious Graces of Your Majesty's Publick Character, together with the Exemplariness of Your Conjugal Affection, and Maternal Care of Your Royal Offspring (the future Hopes and Happiness of this Kingdom); Your profound Knowledge in all Parts of Divine and Human Learning; Your Exemplary Piety, and that Gracious Affability and Condescension to all who have the Honour of approaching Your Royal Person, which is peculiar to Your Majesty :

WHILE I indulge myself in the pleasing Assurance, That to a Mind so exalted by Nature, and improved by Study, the Contemplation of the Works of the Great CREATOR, display'd in the beautiful Productions of Vegetative Nature, contain'd in the copious System of Planting and Gardening, will be an agreeable Entertainment, when Your more arduous Affairs will permit Your Majesty to enjoy the calm and peaceful Sweets of Solitude and Retirement.

THIS agreeable Assurance emboldens me to lay before Your Majesty the following Observations and Experiments on the choicest Fruits which are produc'd in these Kingdoms : The right Ordering whereof being well understood, will render them Mature and
Wholesome,

Wholesome, and not a little contribute to the Health of Your People.

THAT Your Majesty may long continue an Ornament to the Royal Dignity, an Example to Your Sex, the Delight of Your Subjects, and Admiration of *Europe*, is the fervent Prayer of,

May it please Your MAJESTY,


Your Majesty's most Dutiful,

And most Loyal Subject,

Batty Langley.



T H E
P R E F A C E.

 *ALTHO* our shady Walks, Avenues, Groves, Wilderesses, Grotto's, Fountains, Canals, &c. (of which I have endeavour'd to gratify the Curious with great Variety of Plans, after a Grand and more Rural Manner than has been done before, in my New Principles of Gardening lately publish'd) may be justly proportion'd, and truly executed in all their Parts, yet if they are not embellish'd with the best Kinds of Fruits now extant in England, it cannot be said but that they are vastly short of those Beauties which make them truly Grand and Noble, as well as Profitable and Delightful.

IF we do but consider the various Forms and Colours of the Leaves of Fruit-Trees, and compare them with Forest-Trees, it will be found, that those of Fruit-Trees are equally as beautiful: But when we compare their beautiful Blossoms, with which they are adorn'd in the Spring, their Fruits which succeed, and their Leaves also, with the bare Leaves of Forest-Trees only, 'tis evident that there's no manner of Comparison between them.

BUT it is not to be understood, that because the Beauties of Fruit-Trees are superior to those of Forest-Trees, that therefore Forest-Trees are to be rejected, and not receiv'd in our Gardens. And since that Fruit-Trees are known to be beautiful as well as profitable, 'tis therefore that I advise the Planting of them with Forest-Trees, in Wilderesses, and other Rural Parts of Gardens, that their various agreeable Mixtures of Leaves and Fruits, may not only delightfully entertain the Eyes of the Beholders, as they pass thro' the several Meanders thereof, but their Taste also.

[b]

BESIDES,

BESIDES, from Plantations of this Kind, there always arise great Profits, (exclusive of the aforesaid Pleasures) as for Instance, Apples and Pears produce good Cyder and Perry ; Gooseberries and Currants good Wine ; Cherries and Rasberries fine Mixtures in Brandy, &c. besides the many Services in the Kitchen for Tarts, &c. all which are very serviceable and advantageous to a Family, and therefore is most humbly recommended to the Consideration of the Judicious.

AS I have thus advised the Planting of such Fruits which ripen very well in the open Air ; namely, Cherries, Plumbs, Pears, Apples, Strawberries, Rasberries, Gooseberries, Currants, &c. I shall now proceed to say something relating to the most desired Fruits, namely, those produced against Walls.

THE most valuable Wall-Fruits in England, are Cherries, Plumbs, Apricots, Peaches, Grapes, Figs, and Pears, of which we have a very great Variety, that are truly good, when well order'd, in kind Seasons ; But, to the great Misfortune of most of our Nobility and Gentry, 'tis very seldom that they have any that are truly good, when Seasons are kind, notwithstanding the very great Expences they are at, except by an Accident, when Nature herself has acted the Part of a judicious Gardener ; and the Reasons thereof wholly unknown to the Gardener under whose Direction she has been.

*IT is as impossible that Fruits can be mature and ripen'd in their greatest Perfection, when their Juices are full of Crudities, that are confin'd in them for want of a free Perspiration, as it is for Nature equally to support ten Dozen of Peaches, &c. with the same Nourishment as when there is but a Dozen and half, or two Dozen at most : But this is not the direct Fault of Gardeners, for as there's no one of them now in England, (the ingenious Mr. Miller of the Physick Garden at Chelsea excepted) that knows (or ever thought) of Crudities being contain'd in the Juices of Fruits, which, when confin'd, cause their Tastes to be watery and insipid ; or that such Crudities are discharged by Perspiration, (very few of whom know the Meaning of the Word) they are not to be blamed for what they never knew, and therefore 'tis no wonder that bad Fruits have been annually produced in great Quantities, even
when*

when Seasons were very kind. And as the Perspiration of Fruits is a new Discovery, their past Errors are pardonable ; but for the future 'tis expected, that they are no more practised, and the following strictly executed, whereby every Gentleman will receive his Fruits in the utmost Perfection, that his Soil and the Season can produce.

THE following Works are, in general, Matters of Fact, digested in such a Manner as to be read by every one that desires to know the Reasons and Consequences of all their Operations, which I humbly conceive will be no less Delightful than Profitable ; the Whole being a new Scene of Nature, wherein her wonderful Methods of Working, thro'out her various Productions, are fully demonstrated, in a concise and easy Manner, calculated to the Understanding of the meanest Capacity, as well as the most Polite and Learned herein.

'TIS very probable, that, at the first Sight hereof, Gardeners may be unwilling to depart from their old, uncertain, conceited Methods, believing themselves either too old, or too well learned, to learn more than they already know ; or may imagine, that what is here offered for their Improvements, may be bare Chimera's only, like unto all which has been wrote on this Subject by Theorical Gardeners, who never had (or were bred to) Practice. But however, if they will but temperately read, consider, and make Experiments on some of their Trees, Experience will soon convince them of their mistaken Opinions therein.

IT is a very great Mistake and Misfortune, when Noblemen and Gentlemen cannot be fix'd with good Gardeners, but are always changing, and very often from a bad to a worse, which at first is not discover'd, till some terrible Stroke is made among the Fruit-Trees, perhaps to the utter Ruin of them, and then 'tis too late to be retrieved.

THERE is a certain Kind of People in England, who having been employ'd in the labouring Part of Gardening, perhaps but for one Month only, will then put on Aprons, and call themselves Gardeners, tho', at the same time, they in fact are no more than Wheel-barrow Men, and very often hardly worthy of that Office.

BY

BY that time that these Sort of People have continu'd in such Employments about the Space of a Year, they begin to enquire what Gentlemen want Gardeners; and as soon as they hear of any, away they go and offer their Service, saying, that they are true-bred Gardeners; that they help'd to make such a Nobleman's Garden; nay, very often will have the Impudence to say, that they actually made it, tho' but a Wheel-barrow Man at most, as I observ'd before; and to close up the Whole, make use of the Name of some eminent Nursery-Man, or Gardener, under whom they say they were instructed, tho' perhaps they are wholly unknown to him.

AND if they can by any means come to know what Wages the last Gardener was paid, they always ask much less; that is, if the former Gardener serv'd for 20 l. per Ann. they will serve for 15, 12, 10, nay, for 8, rather than stand out; and upon that Account have been very often employ'd.

NOW when a Gentleman has first been at a great Expence in building new Walls, purchasing Trees, preparing the Soil, planting them; and afterwards five or six Years Expences in their Ordering, under the Government of a good Gardener, and is then in Hopes, and a fair Way of receiving good Store of Fruits for his Expences and Labour; why then, perhaps upon some trifling Account or other, the Gardener who planted and brought them into that fine fruitful State, is discharged, and one of the aforesaid Pretenders received into his Place, who immediately begins either to cut or slay, without either Fear or Wit, or otherwise suffers them to grow in such disorderly Manner, that after one single Year's Growth, 'tis not in the Power of a skilful Pruner to recover them to the same State, as when they were first committed into the Hands of their Executioner, under the Space of three or four Years at the least.

OF these Pretenders we have great Numbers annually imported from the Northern Parts, who very probably might in time be as good Gardeners as any in England, had they but Modesty enough to be well instructed by our English Gardeners, before they attempt such Undertakings.

IT is also a very great Mistake in Gentlemen, who Lett their Gardens to be kept by the Year, to Undertakers, who generally Lett them again to Gardeners under them, at such very low Rates, that, to save themselves, they are forc'd to slight and hurry over every Part in the very worst Manner, to the great Prejudice of well-planted Gardens.

AT Twickenham, in the County of Middlesex, is an Instance of this Kind, where it unhappily falls out, that the very best Garden of that County, nay, I may justly say the only one in England; for such another curious Collection of valuable Fruits is not to be found in one Garden in this Kingdom; is made a Sacrifice thereby: And I am credibly inform'd by a Labourer thereof, that the Gardener who now has the Care of it, under the Undertaker, attempted, the last Winter, to lett the Pruning and Nailing of those most valuable Wall-Fruits to the Labourers, at Three-pence per Rod.

I MUST confess that I was griev'd to hear it, for finer Trees are not in England; and the Price being so very small, the Labourers could not undertake the Work, and thereby they escap'd, in Part, the Fury of the unskilful Knife. However, to dispatch them in as expeditious a Manner as possible, the Labourers were set to Work by the Day, and left to their own Discretion, altho' they knew nothing of the Matter, any more than making smooth Walls, which they succeeded in; for not knowing the Blossom-Buds from the Leaf-Buds, they cut away the greatest Part of the Fruits: So that during this Manner of Keeping, there has been very few, or scarcely any Fruits in the whole Garden, notwithstanding that it consists of upwards of Twenty Acres, and did seldom or never fail of being very fruitful before.

IF I may be permitted to give my Opinion, with Relation to the Pruning of Fruit-Trees in large Gardens, I humbly conceive that their Pruning is the direct Business of the Head Gardener himself, and no other Person whatsoever, excepting that any of his Underlings have been well instructed therein, who may then, under his Eye, perform a Part thereof. For one experienc'd Pruner will perform more Work in one Season, than any Nobleman or Gentleman's Table can require: and therefore when unskilful People (as aforesaid) are employ'd in such Works, either

by the Indiscretion of the Gardener under whom they Work, or thro' his Idleness, the Gentleman whom they serve, is certain of being greatly injur'd, and very often his Trees are totally ruin'd thereby.

WHEN Gentlemen are determin'd to Lett the Keeping of their Gardens by the Year, 'tis much to their Advantage, to Lett them to the Gardeners themselves, who are employ'd on the Spot, and not to Undertakers, who must have a Fleece out of the Yearly Allowance for doing nothing: therefore my Advice is, That some reputable Gardener be chosen, and the annual Sum in Gross allow'd him; for then whatever happens amiss he is wholly answerable for it.

BY this Way of proceeding, the Gentleman will be sure of having no Room for Excuses for want of Help; he will be sure of keeping his most valuable Fruits, Flowers, Roots, and Plants, in his own Garden, which many Undertakers are very apt to take a Liking to. And, in a Word, if Business is to be well done in this Manner, it must certainly be best when the Gardener reaps the whole Gain that is allow'd for his Labour, and Expences therein.

THUS much by Way of Caution, with Respect to the Business of Pruning and Keeping of Gardens; I now recommend you to Practice, which is fully declared in the following Chapters.

*Twickenham, July
25, 1728.*

BATTY LANGLEY.


A N

A N

I N D E X

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A D V E R T I S E M E N T.

To the NOBILITY and GENTRY of GREAT-BRITAIN, and IRELAND.

WHEREAS the Pleasure of Gardens, and Success of Plantations wholly depend on the Manner of Laying out, and Judgment in the Choice and Planting such Kinds of Trees, that are most Natural to their Soils: This is to give Notice, That the Author's Advice may be readily commanded to any Part of *Great Britain* or *Ireland*.

BY WHOM

Buildings in General, are Survey'd, Measur'd and Valued.

As also

Timber Growing or Fell'd,

Grotto's, Bath's, Fountains, Cascades, &c. made, and Engines for raising Water to any Height required; Cities, Lordships, Estates, &c. most accurately Survey'd, Measur'd and Map'd, and Sun-Dials of all Kinds made for any Latitude.



P O M O N A :
O R, T H E
F R U I T - G A R D E N
I L L U S T R A T E D.

C H A P. I.
Of E A R T H S.



THE first and most necessary Work to be done, before we begin our Plantations, is, Either to make Choice of a proper Soil, or prepare such as we have, fit for the Reception of those Fruits which we desire to propagate.

ALL the several Kinds of Soils may be reduced to Three, *viz.* Sand, Loam, and Clay; but 'tis my Belief, that Sand (only) is the pure primitive Earth, and all others but Compounds: For, as Mr. *Bradley* justly observes in his *Works of Nature*, That Sand being moisten'd with Water, and worked in the Hand to a Lump, and afterwards dried in the Sun, will, when thoroughly dried, fall down into a
B Heap

Heap of Sand as before ; but if 'tis moisten'd in the same Manner with Oil, and laid in the Sun to dry, it will incorporate, and become a very hard Substance. So, from hence 'tis very probable, that different Natures, Colours, and Textures of Earths, are alter'd, according to the several Natures of the various Juices with which they are mix'd.

NOW seeing that Oily Juices will incorporate with Sand, and become a hard rough Substance, and that more or less in Proportion to the Quantity of the Oily Particles contained therein ; 'tis very probable that from thence it is, that the several Sorts of Clays are generated.

THE several Colours of both Sand and Clay, may very probably proceed from the different Colours of their Juices ; for Sand moisten'd with Water has a different Colour from that mix'd with Milk, Oil, &c. Experience demonstrates, that Sand mix'd with Clay, makes a compound Earth called Loam ; which differs in its Nature, according to the Proportion contain'd between each other.

EQUAL Quantities of Sand and Clay, perfectly mix'd together, makes the best (and is called a Middling) Loam.

TWO Thirds Clay, and one Third Sand, makes a very strong Loam, usually called Brick-Earth. These two Kinds of Loams are the very best Soils for Apples, Pears, Plumbs, Apricots, and Quinces : The first for the Surface, or first *Strata* ; and the last for the Bottom, or lowest *Strata*.

TWO Thirds Sand, and one Third Clay, makes a light Loam, usually called Light-Land. These two last are the best Soils for Cherries, Peaches, Figs, Vines, &c. this last Composition being the first *Strata*, or Surface, and the preceding the Bottom or next lower *Strata*.

VINES delight in rich warm Soils, and therefore the Sand ought to be in greater Proportion then the preceding.

THE

THE Depth of these two *Stratas* taken together, needs never be more than two Feet, (*viz.*) The first *Strata*, or Surface, 16 Inches, and the Bottom, or next lowest *Strata*, 8 Inches : For whatever Nourishment is imbibed by Trees below this Depth, is crude and undigested for want of Heat ; therefore whenever Fruit Trees are suffer'd to strike their Tap-Roots so very deep, they immediately become luxurious, and their Fruits insipid, by the over and above Crudity of the Sap imbibed from below.

IT has been the Practice of many eminent Gardeners, to make their Borders for Fruit Trees full three Feet deep ; and Mr. *Wife* and Mr. *London*, nay, and even Mr. *Carpenter* also, recommends the making of Earth full three Feet deep, in their *French* Translation of the *Retired Gardener*, without considering the different Degrees of Heat in the Earth, from 1 to 36 Inches deep.

THE Reverend and Learned Mr. *Hales*, in his *Vegetable Staticks*, p. 64. has proved, That at two Feet Depth, 'tis 27 Degrees colder than on the Surface, and consequently the deeper we go afterwards, the more colder and crude is the Nourishment.

IF we are so happy as to have the Liberty of making our own Choice of a Soil for our Plantation, I advise that it be Land which has not been disturbed by either Spade or Plough within the Space of 50 or 60 Years, and continually fed with Cattle : That it be a kind, moderate, sandy Loam, of two Spits in Depth, its Bottom inclinable to a Brick-Earth, with a moderate Reclination towards the South, or South declining East about 20 Degrees ; and the Springs, about ten, twelve, &c. Feet below the Surface.

TO make Choice of Soils by their Smells, Tastes, &c. as Mr. *Wife* agrees to, in his Treatise aforesaid, is very difficult ; for notwithstanding that their Steams, or Tastes, may be disagreeable to our Palates, yet 'tis very probable that they may be agreeable to Plants, when Nature has prepared them fit for their Nourishment. Besides, 'tis not in our Powers to determine the Nature of Soils by Smell or Taste ; because that all Soils contain a great Variety of Juices ; some necessary for
the

the Support of one Kind of Plants, others for other Kinds, which Nature can distinguish and make proper Choice of; but we cannot; for when we smell or taste, 'tis all the Juices mixt together. Extream Drought, or extream Wet, causes Barrenness in all Kinds of Soils; *Sand*, and *Clay*, moderately moistened, will produce divers Vegetables, as well Timber as Fruit-Trees: The *English* Elm, Cherry, Peach, &c. will grow in a moist Sand, and the Oak, Pear, Apple, &c. in a strong Clay.

BUT when these Trees are planted in a moderate moist Loam, their Growths are much greater in the same Time; and the like of almost every other Plant in the Garden. Therefore when Nature has not so well prepared our Soil, as the Natures of our Trees require, we must endeavour to make good such Defects by Art.

LANDS that are very light and sandy, are best manured with Clay, Mud of Rivers, Ponds, &c. and those that are clayey, stiff, wet, &c. with Sand, Sea-coal-ashes, Street-dirt, and Horse-dung, well mixt together. Pigeon's-dung is also a good Manure for cold Lands, being used with Discretion.

ALL Kinds of Loams, require less Help than either Sands or Clays; but we must not therefore drive Nature beyond its Strength. The best Compost for Manuring a good moderate Loam, is Horse-dung, Cow-dung, and a small Quantity of Sea-coal-ashes, well mixt with the uppermost Spit of a fresh Meadow, in a Lestel, for Six Months before. Rotten Leaves and the Bottom of Wood-piles, are also good Manures for strong Loams.

ALL Kinds of Soils are greatly improved by early Ridging, for light and sandy Lands are made thereby capable of receiving the whole Benefits of Rains, Snow, &c. that fall in the Winter, and clayey strong Lands are made mellow, and fit for the Reception of Seed and Plants in the *Spring*. And Loams in general, are not only meliorated and sweetned, by having their Crudities exhaled away by the Sun, Winds, &c. but are enabled to imbibe freely the great Benefits of Moisture, throughout the whole *Winter*, as well as the genial Heat of the Sun, in the *Spring*; which are the very Life and Support of those Vegetables that we desire to propagate.

C H A P.



C H A P. II.

Of the PRINCIPLES of VEGETABLES.

IT is well known to Chymists that Vegetables are composed of Five Principles, *viz.* Sulphur, Volatile Salt, Water, Air, and Earth, and since that their Nourishment is in greatest Part communicated to them at their Roots, 'tis very reasonable to believe, that when the Earth is capable of nourishing and supporting the Growth of Plants, she is then furnished with sufficient Quantities of the First Four Principles, namely, Sulphur, Volatile Salt, Water, and Air.

BY the preceding Chapter it appears, that the more or less Quantity of oily Juices Earths are mixed with, so are they more or less capable of receiving Water, Air, &c. For Sand and light Loams, will imbibe Water, with much greater Velocity than Clay and very strong Loams. For the First having little or no oily Particles mixt in their Juices, admit of a free Entrance; but the Clay and strong Loams, having great Quantities thereof, resist the Water's free Passage therein.

NOW, as Earths are differently stored with these oily Particles, so are they more or less furnished with each of the aforesaid Principles: Which seems to be a wise Order of Nature. For as Vegetables are differently composed of their Principles, so are the several Kinds of Earths furnished therewith, whereby Nature has adapted every Plant to its proper Soil, wherein 'twill thrive best.

SUPPOSE an Oak to be composed of equal Principles, *viz.* one Fifth of Volatile Salt, one Fifth of Sulphur, one Fifth of Water, one Fifth of Air, and one Fifth of Earth;

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THEN

THEN the Nourishment truly natural to the Oak, is of each an equal Quantity: But when these Principles are unequally mixt, be it more or less, in any other Soil, and the Oak is transplanted therein, the Growth will be retarded proportionably; because the unequal Mixture of the several Principles are disproportionable to those of which the Oak is composed.

HENCE it is that Alders, Willows, Poplars, &c. which have great Quantities of Water in them, cannot thrive in hot and dry Lands. And contrarily, the Oak, Beech, Cherry, Peach, &c. cannot thrive in very wet Lands, where the Quantity of Water is in too great a Quantity for their Support, which rather disunites their Principles, than supports them. Therefore to be certain of adapting every Plant to its proper Soil, we must first examine the exact Quantities of each Principle that's contain'd in every Plant we would propagate, as also in the Soils we intend to cultivate. And then, if we plant our several Soils with such Vegetables whose Principles are found to be equal; or nearly equal to those of the Soils, we may assure our selves of Success, and work with Certainty; whereas what has been hitherto well done by every one in Planting and Gardening, has been by mere Chance only.

'TIS true, that these Inquiries into Vegetable Nature are beyond the Reach of ordinary Capacities, and require abundance of Accuracy, Judgment, and Time, which may hinder many from making Researches therein; but were such a Work judiciously compleated, 'twould render the Practice of Gardening certain and successful.

IT is with no small Concern, that the great Hurry of Business, and Want of Time, have prevented the compleating of these so-much wanted Experiments, which I should gladly have obliged the World with, at this Instant, since they are the very Basis and Life of Planting and Gardening. But if Life permits, I shall very speedily accomplish them; which with the greatest Accuracy and Justness will be communicated, that every Lover of Planting and Gardening, may have a true Understanding of their several different Natures and Qualities, and thereby be always certain of their desired Success.



C H A P. III.

Of the Moisture contained in the Earth, for the Production and Support of Plants.



S Light is imperfect when deprived of any one of the several Colours, of which 'tis composed, which the Prism exhibits; so likewise are Vegetables imperfect, when any one of their Principles is wanting. And 'tis very probable, when that most necessary Principle, WATER, is wanting, that the Principles of Volatile Salt, and Sulphur, are also wanting. For 'tis more reasonable to believe that they are contain'd in Water, rather than in Earth.

THIS is in great measure proved by Nature, who produces several Vegetables, as Spear-mint, and many other aquatick Plants, without the least Assistance of Earth; nay, there are many Vegetables that live and thrive with the Humidity of Air only. But the Authors of the *Retir'd Gardener*, Mr. London, Mr. Wise, and Mr. Carpenter, do in general seem to assert the contrary, p. 9. where the *Frenchman* says, and they agree to it, “*You will allow, with all the World, that Heat and Moisture are the two Principles that give Life to Vegetables; and the Reason of this is, That there is a Kind of Salt in the Earth, which animates and sets it upon Action.*”

“*NOW this Salt can have no Influence unless it be dissolved, for whilst it is, as it were, fetter'd to the Earth, and serves to compose the same Mass with it, it's uncapable of doing any thing necessary to a new Production; but when the Water has dissolved the Salt, and mingled it with the Parts of the Earth, the Parts thus animated, separate and communicate themselves to the Root of the Plants that receive their Nourishment from them.*”

I CAN'T

I CAN'T see wherein the Philosophy of these Gentlemen consists, for the Salt of Vegetables is volatile, and not a gross Body, and therefore has no occasion of a Dissolution to prepare its Parts fit for the Nourishment of Plants.

AND again, if this vegetative Salt were contained in the Earth, why then in very hot and dry Seasons, when no Rains fall in the Space of six or seven Weeks, and the Earth becomes so dry as to be unfit for Vegetation, the Plants thereof must perish : Because that the Dews (tho' perhaps very great) are of themselves incapable of penetrating the Earth deep enough to dissolve the Salt therein contained ; which they say must be dissolved, before it can do any Thing necessary to a new Production. But on the contrary, 'tis seen that Plants do not perish, but oftentimes make new Productions in those very dry Seasons, which is a convincing Proof that their nutritive Salt must be contained in the Dews, which are then their chief Support, and not in the dry Earth, which is then render'd nearly incapable of Action.

IF these Gentlemen had made Experiments of their own, and strict Researches into the wonderful Operations of Nature, they might have discover'd many of her surprizing Ways of working.

THEY might have seen what Preparations are made in the Leaves, Buds, and Barks of Vegetables, to imbibe Nourishment from Dews, when their Roots are incapable of communicating any, as well as to perspire it away when plentifully supplied therewith : For all the Moisture imbibed by Trees, &c. at their Roots, is not wholly imploy'd in making of Sap, forming new Buds, Branches, &c. as is generally believed—(But this I shall fully handle in its Place)—They would also have known the great Power that Air hath on the Growth of Vegetables ; how it strongly attracts when in a fix'd State, and repels in an elastick State : How it helps to distend their tender ductile Parts, and invigorates their Sap : And how, by its mixing with the other Principles, they are thereby assimilated into the Nourishment of the several Parts of the Vegetable, whereby its Growth is carried on to the greatest Maturity : How the Growth of Vegetables is perform'd by the infinite Combinations, Action and Re-action of their Principles ; and that the volatile Salt,

and

and Sulphurous Particles of Vegetables, are contained in Rains and Dews, and not a Part of the Earth, as they imagin'd.

BUT pardon me for this long Digression, and I will proceed to the Subject in Hand.

THE Quantity of Moisture necessary for the Support of Plants, should be in Proportion to their several Natures ; for some delight in much, and others in less, &c. and therefore Nature has agreeably, at different Depths, furnish'd the Surface of the Earth with such Quantities as are necessary to support their several Natures.

AND 'tis observable, that those Plants whose Nature require but little Moisture, are shallow rooted ; but those that delight in much, extend their Roots to greater Depths.

I HAVE made divers Experiments, in great Variety of Soils, to discover the Quantity of Moisture that Nature had provided for the Support of Plants in dry Seasons, and find, that the greatest Quantity is always contained in the second Foot below the Surface ; which is an undeniable Direction for the Depths of Soils.

AND the Reverend Mr. *Hales* has also proved the same, in his *Vegetable Staticks*, p. 51. in the Manner following :

ON the last Day of *July*, in the Year 1724. he dug up a Cubick Foot of Earth from the Surface of an Alley in his Garden ; and putting it into a Cubical Vessel, whose Weight was before known, he weighed it, and found its Weight equal to 104 Pounds one Fourth, *Averdupois*.

THIS done, he dug up a second Cubical Foot of Earth from the Bottom of the first, whose Weight was 106 Pounds six Ounces : And, lastly, a third Cubical Foot from the Bottom of the second, which weighed 111 Pounds + one Third.

THESE three Feet in Depth were a good Brick-Earth ; but below them a Gravel of two Feet depth, under which the Springs did then run.

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I weighed

I weighed a Cubical Foot of Rain Water, and found its Weight to be nearly 50 Pounds *Averdupois*, which is very little more than half the specifick Gravity of Earth: But Spring-water is oftentimes something heavier, according to the different Nature of the Earth or Mineral from which it springs.

AFTER these three several Cubick Feet of Earth were weighed, they were laid thin, that their Moisture might be the sooner exhaled; and 'twas found, that when the first Cubick Foot was become so dry and dusty as to be unfit for Vegetation, it had lost six Pounds + eleven Ounces of Water, which is near one Eighth Part of its first Bulk.

THE second Cubick Foot being not so dry when the first was weighed, was left some Days longer, and being then weighed, had lost ten Pounds of its Weight.

THE third Cubick Foot being very dry, had lost eight Pounds + eight Ounces, *viz.* one Seventh Part of its first Bulk.

FROM these Experiments it appears, That the second Cubick Foot decreased in Weight the most, (but indeed 'twas some small Matter dryer than either the first or third) and consequently contained as much or more Moisture than that next below it. And 'tis observable, that the Roots of most Plants that are of a large and quick Growth, possess that Depth, probably, because in that Depth the Juices are meliorated and made fitter for the Nourishment of Plants, than those that are deeper, which, for want of the genial Heat of the Sun (being crude and unprepared) are unfit for the Support of Vegetables.

BUT notwithstanding that the Moisture in the three next lower *Strata's* is not so well prepared for the Nourishment of Plants; yet 'tis absolutely necessary that it should be there in Store, to succeed that which is imbibed and perspired away by Plants, as they advance in Growth: For if there was not a Succession of Moisture constantly ascending, 'twould be impossible for Plants to live in very dry Seasons; which will appear when I come to demonstrate the Quantities of Moisture imbibed and perspired by Plants.

AND it is from these Supplies of Moisture, that deep Soils support their Plants in very dry Seasons, when those on shallow dry-bottom'd Lands perish : For tho' the Moisture of these deep *Stratas* is not fit for the Nourishment of Plants, when so very deep, yet as it ascends and comes nearer to the Surface, 'tis better prepared, and at length made fit for their Reception.

THE Moisture contain'd in the lower *Strata's*, is, in some measure, rais'd by the attractive Power of the Sun, as well as by the imbibing Force of Vegetables ; which last is undoubtedly much stronger than the first, because those Countries which greatly abound with Woods, have greater Rains than those that are unplanted : For the Roots of Trees having a very great imbibing Force, do draw up and imbibe great Quantities of Moisture, which they are continually perspiring away at their Leaves, and thereby furnish the Atmosphere with great Quantities of Water, which unplanted Lands cannot do.

'TIS observable that Rains will freely penetrate the Earth Two Feet deep, but seldom freely deeper, therefore at that Depth there is contain'd not only the Rain Water, but the Spring Water also, in such Quantity as 'tis rais'd by the Two attractive Powers aforesaid : Which Depth Nature seems wisely to have chosen, not only that the genial Heat of the Sun can there prepare the crude rancid Moisture fit for the Nourishment of Vegetables, but the scorching Rays of the Sun, and drying Winds, cannot presently exhale away the necessary Moisture, so as to deprive Plants of their Support.

IF any doubt the Ascension of Moisture, let them read Mr. *Hales's Vegetable Staticks*, Pag. 54. and 55. Having thus explain'd the Manner of Nature's supplying Plants with Moisture in hot and dry Seasons, from the lowest *Strata's* of the Earth ; perhaps it mayn't be amiss if I should speak a Word or two, in relation to Dews, which are very refreshing to Plants in dry and hot Seasons.

BY an Experiment made *August 15.* by Mr. *Hales* (*vide his Staticks*, Pag. 53.) it appears, that two glazed Earthen Pans, which were three Inches deep, and twelve Inches Diameter in Surface, fill'd with pretty moist

moist Earth; increased in Weight by one Night's Dew, 180 Grains, and the next Day decreased, one Ounce + 282 Grains. And that nothing might add to, or subtract from, the Accuracy of this curious and useful Experiment, Mr. *Hales* placed those two Pans, in two other broader Pans, to prevent any Moisture sticking to their Bottoms, which might make the Quantity of Dew fallen, seem to be greater than it actually was.

AND 'twas found that a greater Quantity of Dew fell on that Earth which was most moist, than on that which was drier, and more than a double Quantity on Water, than an equal Surface of moist Earth. For the Particles of Dew and Water being Homogeneous, do attract each other with a much greater Force, than *Earth* and *Dew* do, that are Heterogeneous.

“ THE Evaporation of a Surface of Water in a Winter's Day of nine
 “ Hours, is $\frac{1}{31}$ of an Inch, of Ice set in the Shade for the same Space of
 “ time $\frac{1}{31}$ of an Inch.

NOW if from the above Quantity evaporated	762 Grains, which
are equal to 1 Ounce + 282 Grains,	
You subtract the Dew receiv'd in one Night	180
	<hr/>
The Difference is	582

This Difference of 582 Grains is the extraordinary Quantity evaporated from a Circular Area of Earth of one Foot Diameter every 24 Hours in the Summer, more than falls in Dew in the Night. Which in 21 Days, is near 26 Ounces.

For	582	the Quantity daily evaporated,
Multiply'd by	21	the Number of Days ;
	<hr/>	
	582	
	1164	
	<hr/>	
The Product is	12222	Grains.

And

†

And since 480 Grains is equal to one Ounce, therefore divide the Product 12222, by 480, as follows.

480)12222(25 Ounces.

960

2622

2400

222 Grains remaining, which are

but 258 Grains, short of an Ounce complete, to make the whole 26 Ounces.

NOW to find the Quantity of Moisture exhaled from a greater Quantity of Ground, as a Rod, Acre, &c. we must proceed as follows: But that every thing may be fully clear'd, I will go through the whole Operation, that every one may have a perfect Understanding; for the Knowledge thereof is of very great Importance to a good Gardener.

The circular Area before mentioned, being one Foot Diameter, its superficial Quantity in Inches may be thus found, *viz.*

Square the Diameter, multiply the Product by eleven, and dividing the last Product by fourteen, the Quotient will be the Area required.

E

EXAMPLE.

E X A M P L E.

The Diameter 12 Inches.

Multiplied by 12

—

24

12

—

The first Product is 144

Which multiply by 11

—

144

144

—

The 2d Product, } which divide by— } 14) 1584 (113 $\frac{2}{7}$ The Quotient, which is the Number of square Inches in the Area or Circle, whose Diameter was one Foot, or twelve Inches.

14 . .

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42

—

02 remains, which is equal to $\frac{2}{7}$ of the Divisor, equal to one Seventh.

THE second Work is, to find the Number of square Inches in a square Foot : Which is known by multiplying twelve Inches the one Side of the Square, by twelve, another Side of the Square, and the Product will be equal to 144, which is the Number of square Inches contained in a square Foot.

E X A M P L E.

E X A M P L E.

	12	Inches, one Side of a Square Foot.
Multiply'd by	12	one of the other Sides.
	—	
	24	
	120	
	—	
The Product	144	Which are the Square Inches in a Square Foot as required.

THE third Work is to find the Number of Square Feet in a Square Rod, Pole, or Perch, which are also found by multiplying 16 Feet and a half, (the Number of Feet contained in a Rod in Length) by the same, and their Product is the Number of Square Feet required.

E X A M P L E.

	<i>Feet.</i>	<i>Inches.</i>	
	16	: 06	
	16	: 06	
	—	—	
	96	: 00	
	160	: 00	
	8	: 00	
	8	: 00	
	0	: 03	
	—	—	
The Product	272	: 03	Which are the Square Feet contained in one Square Rod as required.

AND as an Acre of Land contains 160 Poles, or Rods, the Calculation may be made for any Quantity required.

AS for Example ;

A SQUARE Pole (whose Sides are severally equal to 16 Feet $\frac{1}{2}$) contains 39204 Square Inches, which being divided by 113, the Area of the Circular Foot, omitting the Fraction, the Quotient is 346 $\frac{106}{113}$.

AND, as it has been proved, that in 21 Days near 26 Ounces were evaporated from one Circular Foot, therefore multiply 346 (the Number of Circular Feet in one Square Rod) by 26, (the Quantity evaporated from the Surface of a Circular Foot in 21 Days) and the Product will be 8996, which is very near the Quantity of Ounces that are evaporated from the Surface of one Rod in 21 Days.

IF 8996 be divided by 16, (the Ounces in a Pound *Averdupois*) the Quotient will be $562\frac{1}{4}$, the Quantity of Pounds Weight evaporated.

IF we admit, that one Pound of Water is equal to one Pint, we may easily reduce the $562\frac{1}{4}$ Pounds into Gallons : For 562 being divided by 8, the Number of Pints in a Gallon, the Quotient is $26\frac{16}{21}$, the Quantity of Gallons evaporated from one Square Rod in 21 Days.

NOW by the Rule of Proportion :

IF, in 21 Days, 8996 Ounces be evaporated from one Square Rod, what Quantity is evaporated from the same Surface in 21 Days ?

ANSWER. 428 Ounces, equal to 26 Pounds 12 Ounces, equal to three Gallons, one Quart, and three Quarters.

N. B. IF the judicious Gardener does well consider this, he will be easily led into the Reasons of watering Plants in dry Seasons.

NOW, seeing that we have obtained the daily Evaporation of one Rod, I will proceed to a further Enquiry, *viz.* What Quantity of Moisture is evaporated in the Space of a whole Summer ; which I begin at the 15th of *May*, and end at the 15th of *October*, containing 154 Days.

BY the Rule of Proportion :

IF, from the Surface of one Rod, 428 Ounces are evaporated in one Day, what Quantity will be evaporated from the same Surface in 154 Days ?

ANSWER. 65912 Ounces, equal to 4119 Pounds $\frac{1}{2}$, equal to 514 Gallons, $\frac{1}{2}$ Pint, equal to 14 Barrels, 10 Gallons, $\frac{1}{2}$ Pint.

NOW to find the Quantity of Moisture evaporated from one Acre, in the same Time, proceed by the same Rule; *viz.*

IF from the Surface of one Rod, 65912 Ounces are evaporated in 154 Days, what Quantity will be evaporated from the Surface of an Acre (*viz.* 160 Rods) in the same Time?

ANSWER. 10545920 Ounces, equal to 659120 Pounds, equal to 82390 Gallons, equal to 2316 Barrels, 14 Gallons.

NOW, as we have made this Calculation, let us proceed a little further, and enquire what Depth of Water is evaporated from the Surface of the Earth every Day, whereby some Proof may be given for the preceding Calculation.

“ *NIC. Crugnius* (as Mr. *Hales* observes, *p.* 55.) N^o 381. of the “ *Philosophical Transactions*, found that 28 Inches Depth evaporated in “ a whole Year from Water, *i. e.* $\frac{1}{12}$ of an Inch each Day, at a mean “ Rate; but the Earth, in a Summer’s Day, evaporated $\frac{1}{40}$ Part of an “ Inch; so the Evaporation of a Surface of Water is to the Evaporation “ of a Surface of Earth in Summer, as ten is to three.”

FOR since that $\frac{1}{12}$ of an Inch is evaporated daily from Water, therefore, in twelve Days, there will be one entire Inch in Depth evaporated; and consequently in 144 Days, (which is much about the Length of a Summer) one entire Foot in Depth, provided that Rains were not, or do not fall in that Time. From this we may easily account for the Waste of Water in stagnant Fishponds, Canals, &c.

BUT since that the Earth doth evaporate but $\frac{1}{40}$ of an Inch in a Day, therefore one entire Inch in Depth cannot be evaporated under 40 Days.

AND as the first Cubical Foot of Earth, in the preceding Experiment, had wasted 194 Cubick Inches of Water, which render’d the

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Earth

Earth unfit for Vegetation ; therefore if from one Foot Square there are 144 Cubical Inches evaporated in 40 Days, 'twill require 53 Days $\frac{8}{9}$ to evaporate 194 Inches, to render the Earth as dry and unfit for Vegetation as aforesaid : Which 53 Days $\frac{8}{9}$, is about the one third Part of a Summer ; and 'tis always seen, that when we are without Rains for so long a Space of Time, the Surface of the Earth, for a full Foot in Depth, is so very dry, as to be unfit for Vegetation.

BY the preceding Calculation it has been demonstrated, That 514 Gallons were evaporated from one Rod of Ground in 154 Days ; but by the Evaporation of $\frac{1}{4}$ of an Inch in a Day, it appears to be something (tho' very little) more. I will demonstrate the same in the following Operation :

SINCE that two Square Feet contain 288 Square Inches, which are evaporated in 40 Days, and 288 Cubical Inches being equal to one Gallon, 'tis evident that one Square Foot that contains 144 Square Inches, being taken at one Inch in Depth, is equal to two Quarts, or half a Gallon ; and consequently 272 Square Feet $\frac{1}{4}$, (which is equal to a Rod) doth evaporate in 40 Days, 272 times $\frac{1}{4}$ the Quantity of one Foot, which is equal to 545 Quarts, equal to 136 Gallons one Quart, equal to three Barrels $\frac{2}{3}$ and one Quart. See the Operation.

The Cubical Inches in one Gallon	288	
The Cubical Inches in two Quarts	144	equal to the Square Inches in a Square Foot.
The Number of Feet in a Square Rod	272 $\frac{1}{4}$	
Which multiply by	- - - 2	the Quarts contain'd in one Square Foot, at one Inch in Depth ;
Product	- - - 544	
To which add	- - - 1	for the $\frac{1}{4}$ of a Foot multiplied by 2, equal to $\frac{1}{2}$ Foot, equal to one Quart. And
The Product is	- - - 545	Quarts, the Quantity evaporated from one Rod of Ground in the Space of 40 Days.

NOW

NOW divide 545 by 4, the Quarts in a Gallon;

4)545(136 $\frac{1}{4}$ the Number of Gallons.

4

—

14

12

—

25

24

—

1 Remainder, equal to one Quart.

NOW say, If in 40 Days 136 Gallons are evaporated from the Surface of one Rod, how many are evaporated in 154 Days?

ANSWER. 523 $\frac{3}{4}$, which will appear by multiplying 154 by 136; and dividing their Product by 40, the Quotient will be 523 $\frac{3}{4}$, as aforesaid. See the Operation.

THE Proportion is this;

40 : 136 :: 154 : 523 ; that is,

As 40 is to 136, so is 154 to 523 : Therefore place your Numbers as following :

40 : 136 :: 154 : 523 $\frac{3}{4}$

136

—

924

462

154

—

The Product, which divide by 40)20944(523 $\frac{3}{4}$

200

—

94

80

—

144

120

—

24 Remainder, equal to $\frac{1}{4}$, or,

$\frac{1}{20}$, or $\frac{6}{100}$, or $\frac{3}{50}$.

NOW,

NOW, if we compare this Quantity thus obtain'd, with the other before obtain'd, we shall find their Difference to be inconsiderable :

The Gallons before found to evaporate from one Rod in	154	}	514
Days, were	- - - - -		
The Gallons now found at $\frac{1}{40}$ of an Inch <i>per Diem</i> for	154	}	523
Days	- - - - -		
The Difference is	- - - - -		9

Therefore the Evaporation of Earth is nearly $\frac{1}{40}$ of an Inch in a Day, as before said. *Q. E. D.*

ACCORDING to the Experiments of the Reverend and Learned Mr. *Hales*, p. 56. it appears, " That the Quantity of Rain and Dew, which falls in a Year, is at a *Medium* 22 Inches.

" THE Quantity of the Earths Evaporation in a Year, is, at least, 9 + $\frac{1}{2}$ Inches, since that is the Rate at which it evaporates in a Summer's Day.

" FROM which 9 + $\frac{1}{2}$ Inches, are to be deducted 3. 39 Inches, for circulating Dew, there remains 6. 2. Which 6. 2 Inches deducted from the Quantity of Rain which falls in a Year, there remains at least 16 Inches Depth, to replenish the Earth with Moisture fit for Vegetation, and to supply the Springs and Rivers."

THIS 16 Inches Depth of Water, with which the Earth is replenish'd, and Springs and Rivers supplied, would be all evaporated in the Space of 640 Days, which is but one Year and nine Months, three Weeks and three Days, were the Earth to be so long without Rains. So easily would the whole World be destroy'd, were we not to receive those continual circulating Blessings of Rain and Dew : The Truth of which appears by the following Calculation :

IT has already been proved, that an Inch Depth of Water is evaporated in 40 Days ; therefore multiply 16, the Inches Depth of Water for Support of Springs, &c. by 40, the Number of Days that one Inch

Inch is evaporating, and the Product will be 640 Days, which being divided by 7, the Days in a Week, the Quotient will be $91\frac{3}{7}$ Weeks, equal to one Year, nine Months, three Weeks, and three Days.

The Days that one Inch deep is evaporating away, are 40

The mean Depth of Water in the Earth, for }
the Support of Rivers, Springs, Plants, &c. } 16 Inches.

—
240
40
—

The Product : Which divide by - - - 7)640(91 Weeks, equal
to one Year, nine Months, and three Weeks. 63 ·

—
10
7
—
3 Days remain.

NOW, whilst that 16 Inches deep are evaporating from the Earth, there will be at the same time, four Feet, five Inches, $\frac{1}{3}$ Depth of Water evaporated from Seas and Rivers; for (as before) it was shewn, that an Inch Depth of Water was evaporated in 12 Days; therefore if we divide 640, (the Number of Days the 16 Inches of Water is evaporating out of the Earth) by 12, (the Days that one Inch is evaporating from the Surface of the Water) the Quotient will be $53\frac{1}{3}$, which is the Depth of Water that would be evaporated in 640 Days.

12)640($53\frac{1}{3}$ Inches Depth.
60 ·

—
40
36
—

4 Remains, equal to $\frac{1}{3}$.

WE having gone thro' such Parts that have inform'd us how to account for the Quantity of Water that is daily evaporated by the Sun, &c. we should now take some Notice of the Quantity of Moisture that is imbibed from the Earth, by the Roots, and perspired away thro' the Leaves of Plants.

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FOR thereby we shall be able to determine what Moisture is sufficient for the Support of every Vegetable committed to our Care, and behold the great Beauties contained in their different Natures and Constitutions.

THE Experiment made by Mr. *Hales* on the Sun-Flower, (*p.* 4. *Vegetable Statics*) will give us a very great Help herein : It was then observ'd, That the Space of Ground that its Roots occupied, evaporated something more than ten Pounds, and two Ounces, in the Space of 21 Days, and the Plant imbibed at the same time 29 Pounds, therefore the Quantity evaporated and imbibed was 39 Pounds: And as the Roots occupied about four Cubical Feet of Ground, the Moisture wasted by Evaporation and Perspiration, was more than the Earth would have evaporated (had no Sun-Flower been planted in it) in the Space of 100 Days and upwards. For as we allow one Pound of Water to be a Pint, the 39 Pounds are 39 Pints; and since that one Pint contains 36 Cubical Inches, therefore 39 contains 1404.

$$\begin{array}{r} 39 \\ 36 \\ \hline 234 \\ 117 \\ \hline \end{array}$$

Product 1404 the Number of Cubical Inches of Moisture wasted from four Cubical Feet in 21 Days.

AND since that the Surface or superficial Content of four Square Feet (the Surface of four Cubical Feet) is equal to 576 Inches; therefore divide 1404, by 576, and the Quotient will be $2\frac{3}{4}$ equal to $2\frac{1}{2}$, which is something more than 2 Inches $\frac{1}{2}$ in Depth, which requires more than 100 Days for its Evaporation.

Multiply'd by $\begin{array}{r} 144 \\ 4 \\ \hline \end{array}$ the Inches in the upper Surface of 1 Cubical Foot,
the Number of Cubical Feet;
The Product is 576 By which divide 1404,
 $\begin{array}{r} 576)1404(2\frac{1}{2} \\ 1152 \\ \hline 352 \end{array}$ The Depth on four Cubical Feet;
352 Remainder, equal to $\frac{1}{2}$ when reduced.

NOW

NOW seeing that the Sun-Flower imbibed the Moisture with very near three times the Velocity that the Sun evaporated it, *viz.* as 10 is to 29, which is very near as one is to three; when we water the Sun-Flower in very dry Seasons, we should allow four times the Moisture that is evaporated by the Sun, which before was proved to be near 27 Pints to one Rod, *viz.* 108 Pints, which is equal to 13 Gallons $\frac{1}{2}$ *per Diem*. And the like of all other Vegetables, in Proportion to their different Powers of Perspiration.

IF all the best Kinds of Fruits were planted in Pots, and cover'd with Lead, as in the Experiment of the Sun-Flower, we might very easily know their different Powers of imbibing and perspiring: But then Care must be taken to proportion the Magnitude of the several Plants, as near equal as can be, and to make the Weights of the several Pots and Earth equal; that by giving each Plant an equal Quantity of Water, we may every Evening see the Quantities perspired, by the Difference of their Weights.

TO be very accurate in these Experiments, 'tis necessary to make Experiments on Plants of one, two, three, four, five, &c. Years Growth, that we might discover with what different Force they imbibe and perspire, as they advanced in Age, and their Sap-Vessels harden: And when we are thus inform'd of the different Powers of Perspiration, we may, by comparing their Magnitudes with the Magnitudes of other Plants, know their Perspirations also.

AND since that the Perspiration of Plants will be found to be as different as the Degrees of Heat and Cold; 'twould be well worth our while to place Thermometers against our Plants, to know what Degrees of Heat caused such and such Perspirations: And if against those several Degrees were placed the Perspirations of those Plants, we might at all times afterwards behold and account for those very great and wonderful Operations of Nature, which will be a continual Entertainment, as well as a Directory also, teaching us when and how we are to relieve our curious Plants and Fruits, in hot and dry Seasons.

BUT as Experiments of this Nature must be begun early in the Spring, and observ'd thro'out a whole Summer, I therefore do intend (God willing) to begin this Work the next Spring, and continue it thro'out the whole Summer ; after which I will communicate all my Observations thereon, for the Pleasure and Improvement of those that delight, and are concern'd in those innocent Amusements of Planting and Gardening.



C H A P. IV.

Of the Manner that Nature supports PLANTS with Moisture, and its Effects on the Growth of TREES.

PLANTS are supported with Moisture, by Rains, Dews, Springs, &c. which they receive at their Bark, Buds, and Leaves, as well as at their Roots.

IN warm and dry, or hot and dry Days, they receive their Nourishment at their Roots only, because that then they are in a perspiring State, and therefore must be supported at their Roots only ; for Trees that grow in the open Air, cannot imbibe and perspire at their Leaves, &c. at the same time : But in an Evening, when the Heat of the Day is over, then they are changed from their perspiring to a strongly imbibing State, imbibing plentifully the Dew and Rain, when any happen, at their Leaves and Bark, as well as the Moisture of the Earth at their Roots.

IF any dispute or doubt the Perspiration of Plants, let them read Mr. *Hales's Vegetable Staticks*, which, in fact, should be read and well understood by every one that would understand the Reasons of their several Operations in Gardening.

IN cool or wet Days, the Perspiration of Plants is not so great, as in dry and hot Days ; nay, very often they have no Perspiration at all, but are in an imbibing State, especially in warm wet Weather.

AND when cold wet Weather continues a long while, Trees become saturated with Moisture ; and then it is that their Sap is full of Crudities, for want of a drying Air to perspire it away, which renders their Fruits immature, with insipid Tastes.

THIS is manifested when wet and cold Summers happen ; and therefore, even for this only Reason, 'tis absolutely necessary, that the Branches of Trees should be kept very thin, so as to let in as much Air as is necessary to perspire away the Crudities of the Sap.

THIS is the real Cause of the lower Branches of Trees, which stand thick together in a Wood, being dead, or very near it, whilst those on their very Tops are in a thriving healthy State.

FOR notwithstanding that the lower Branches are nearest to the Root, and consequently receive their Sap before those at the Top, yet for want of free drying Air, they cannot perspire away the Crudities thereof, but, being saturated therewith, at length perish ; whilst those on the Tops, which always enjoy a free Air, tho' farthest from the Root, perspire freely, and expand much. And on the contrary, Trees that stand single, have their largest and strongest Branches next the Roots, and the very weakest at their Tops ; for such Trees having a free Perspiration in all their Parts, their lower Branches are first furnish'd with Sap, which renders them stronger than those that are higher, and last served. And 'tis from this that Forest Trees acquire their beautiful Pyramidical Forms, the Force of the Sap being proportionably spent, in the several Stages of their lateral Branches, as they ascend in Height.

AND as every Stage of Branches are shaded by the next above them, 'tis therefore that they become naked, and only produce Leaves at their Ends, as in the Case of Trees planted close together in a Wood. But if the middle of Trees are kept open, as Dwarf Trees in Gardens, or very thin of Wood, then all their several Branches will have a free Perspiration

ration in all their Parts, and consequently be full of Buds, Leaves, and Shoots.

THIS I advise my Readers to consider well, for hereon depends the whole Success of our Labours, which I shall fully demonstrate when I come to lay down the Reasons and Manner of Pruning.

BY the preceding Account it appears, That 'tis very Beneficial to water the Leaves and Branches of Fruit Trees in an Evening, when Seasons are very dry.

THE 20th Experiment of Mr. *Hales*, mention'd in his *Vegetable Statics*, p. 62. proves, That at two Feet Depth the Heat is very considerable and constant ; that is, the same by Night as by Day, and that by its strong Influence, great Quantities of Moisture are continually raised from the lower *Strata's*, during the warm Summer Season, for the Support of Plants : “ The Impulse of the Sun-Beams giving
“ the Humidity of the Earth a brisk undulated Motion, which watry
“ Particles, when separated and rarified by Heat, do ascend in Form of
“ Vapour, and vigorously enter the Roots of Plants.”

THEREFORE (as this Gentleman further observes, p. 66.) 'tis very reasonable to believe, That the Roots of Vegetables are thus, by Means of the Sun's genial Heat, continually water'd with new Supplies of Moisture : For if the Humidity of the Earth did not thus ascend, the Roots of Vegetables must receive all the Nourishment which they have from the Earth, merely by imbibing the next adjoining Moisture contain'd in those Shells of Earth which enclose their Roots ; and if so, why then that Earth which is next to their Roots would be always much dryer than that which is farther from it, which is not always so : And again, if this was the Case, why then Plants that grow in the Earth, and root very shallow, would be as soon perish'd for want of Moisture, as the same Plants when they are planted in large Tubs, such as those in which we plant our Orange Trees, whose Bottoms preventing the rarified Vapour from penetrating the Roots of the within planted Trees, they do therefore soon exhaust away all the Moisture contain'd in the Earth of the Tub, and perish if not supplied with more.

AND
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AND again, (as this Gentleman further observes) if Plants were not thus supplied with Moisture from the lower *Strata's*, how would it be possible for them to subsist in very hot Latitudes, as those within 10 or 15 Degrees of the Equinoctial Line, where they are often without Rain for many Months.

THEREFORE the genial Heat of the Sun being in Conjunction with the Attraction of the capillary Sap-Vessels, the Moisture is raised, imbibed, and carried up thro' the Bodies and Branches of Plants, and thence passing into the Leaves, it is there most vigorously acted upon in those thin Plates, and put in an undulating Motion by the Sun's Warmth, whereby it is most plentifully thrown off, and perspired thro' their Surface ; whence, as soon as it is disentangled, it mounts with great Rapidity into the Air.

NOW, from what is here deliver'd, 'tis plain, That deep and strong-bottom'd Lands, which always abound with great Quantities of Moisture in their lower *Strata's*, are the only Lands which we are to make Choice of for our Plantations of Fruits : That when hot and dry Seasons happen, they may be able to subsist without great Labour and Expence in Watering, which must be at those Seasons when we plant in shallow, light, dry-bottom'd Soils, such as Sands, Gravels, &c.





C H A P. V.

Of the GROWTH *and* MATURITY *of* PLANTS.

THE first Operation of Nature, after sowing the Seed of a Vegetable, is to imbibe as much Moisture as is necessary for its Germination, whereby it swells with very great Force. This Force Mr. *Hales* has proved in his Experiment on Pease, which he put in an Iron Pot with Water, and, as they dilated themselves, they raised 184 Pounds. *Vide Vegetable Staticks, p. 94.*

NOW seeing that Seed cannot strongly germinate without a sufficient Quantity of Moisture, 'tis no wonder that bad Crops are produced, when sown late in dry Seasons : Therefore the old Maxim of sowing dry, seems to be a Mistake, except in Lands that are naturally very wet.

AND since that Seeds dilate themselves with very great Force at their Germination, therefore the Soil wherein they are sow'd should be well meliorated by digging, &c. not only for their free Dilatations, but for the more easy Penetration of their tender Plumes, or first leading Shoots into the Air, as well as their Radicles, or first shooting Roots, with their subsequent Fibres, in the Earth. For when the Radicles cannot freely penetrate the Earth, 'tis impossible that they can imbibe sufficient Moisture necessary for the Production of good Plants.

N. B. IF any desire to be inform'd how Nature operates from the Germination of Seed to the Formation of Buds, Shoots, &c. let them read Mr. *Hales's* Vegetable Staticks, p. 329, 349, 351.

THE Shoots or Branches of Trees are produced by the gradual Dilatation and Extension of their Buds ; for all Branches and Fruits are form'd in the very same Proportion as they afterwards appear when fully grown.

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SOME Kinds of Fruits discover their Embrio Shoots, and Fruits, within the Bud, visible to the naked Eye, without the Help of a Microscope ; as the Bud of a Mulberry, slit thro' from the Vertex to its Base, exhibits the Fruit with its next adjoining Leaves, which Nature has carefully placed, not only to wrap up and preserve the tender Fruit during the Winter's Cold, to attract Nourishment, and perspire away the Crudities of the Sap, but to expand themselves in such Manner, so as to preserve the tender Sap-Vessels of the Fruits, during their Growths, from the drying Winds and scorching Rays of the Sun.

THE Growth of Branches are always proportionable to the Nature of the Season in which they are produced. Wet Springs do always produce the longest and largest Shoots, because their soft ductile Parts do then continue longer in a moist tender State ; but in a dry Spring the Fibres soon harden, and stop the further Growth of the Shoot, their Sap-Vessels being dried by their great Perspiration, caused by the extraordinary Heat. The most genial Heat for our *English* Plants is from 17 to 30 Degrees ; which Heat generally happens in the Months of *May* and *June*, when Plants in general flourish most.

A COLD Spring has a worse Effect on the tender Parts of Shoots, than a cold Autumn ; for as the young Shoots of Plants have a greater Proportion or Quantity of Salt and Water in them at their Spring, than in the Autumn, they are more liable to be injur'd by Cold than in the Autumn, when they are in a more advanced Age, and their Quantity of Oil increased proportionable to their Degree of Maturity : For the great Work of Nature, in bringing Fruits and Seeds to Maturity, is, to combine together in a due Proportion, the more active and noble Principles of Sulphur and Air, that constitute Oil, which, in its most refined State, is never found without some Degree of Earth and Salt in it. And the more perfect this Maturity is, the more firmly are those Principles united. *Vide Vegetable Statics, p. 322.*

FROM what has been deliver'd in respect to the Growth of Shoots in a dry Spring, it appears, That if weak Trees are then oftentimes refreshed with Waterings, so as to keep their soft ductile Parts supple, 'twill greatly add to their Growth. And on the contrary, the Growth of luxuriant Trees, for want of such Moisture, are, by a dry Spring, retarded, and thereby made fruitful.



C H A P. VI.

Of the Manner of Preparing Lands for Plantations of
F R U I T - T R E E S.



THE best Season for preparing Lands, wherein we design to make Plantations of Fruit-Trees, is *October*, or as soon after as the Moisture of the Ground will admit.

IF your Land is deep, that is, when about two Feet in Depth, 'tis best to trench it two Spits, and the Crumb (as term'd by Gardeners) in Depth, laying the Spit that is taken from the Bottom in Ridges, that the Winter Rains and Frosts may mellow it, and exhale away the Cru-
dities thereof. But if your Land is shallow, the best Method is to dig it one single Spit only, and that to be laid in Ridges, for the Reasons aforefaid, and level'd down in the Spring following.

IF your Land is not over fresh or rich, 'twould be very serviceable to mix in the Working a good Coat of Horse-dung well rotted, such as old Cucumber and Melon Beds, &c. but not new Dung on any account, it being perfect Poison to the Roots of new-planted Trees.

IN the Trenching of Land, Care should be taken that the Workmen don't leave Cores of undisturb'd Earth between the bottom Spits of each Trench, as they are apt to do, when they work by the Grate, (nay, when by the Day) and that their Spits are of a moderate Size ; for when Lands are digged with large Spits, they cannot meliorate so well, as when with moderately small ones, and consequently are then less fit for the free Penetration of those Roots which we desire should thrive therein.

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WHEN by trenching the aforesaid Depth, a hungry, raw, or sharp Bottom comes up, 'tis best to leave off, and go no deeper than the Goodness of the Land will allow. And if at last the whole Depth appears to be too shallow, that is to say, less than 18 Inches in Depth, the only Method is to raise it with the first Spit of a green Sward, or Meadow, which has not been broke up by Spade or Plough within the Knowledge of Man, and where Cattle has continually been fed. But for want of such Virgin Earth, as Mr. *Evelyn* calls it, we must make use of the very best and freshest we can get, and therewith make the good Land about two Feet in Depth.

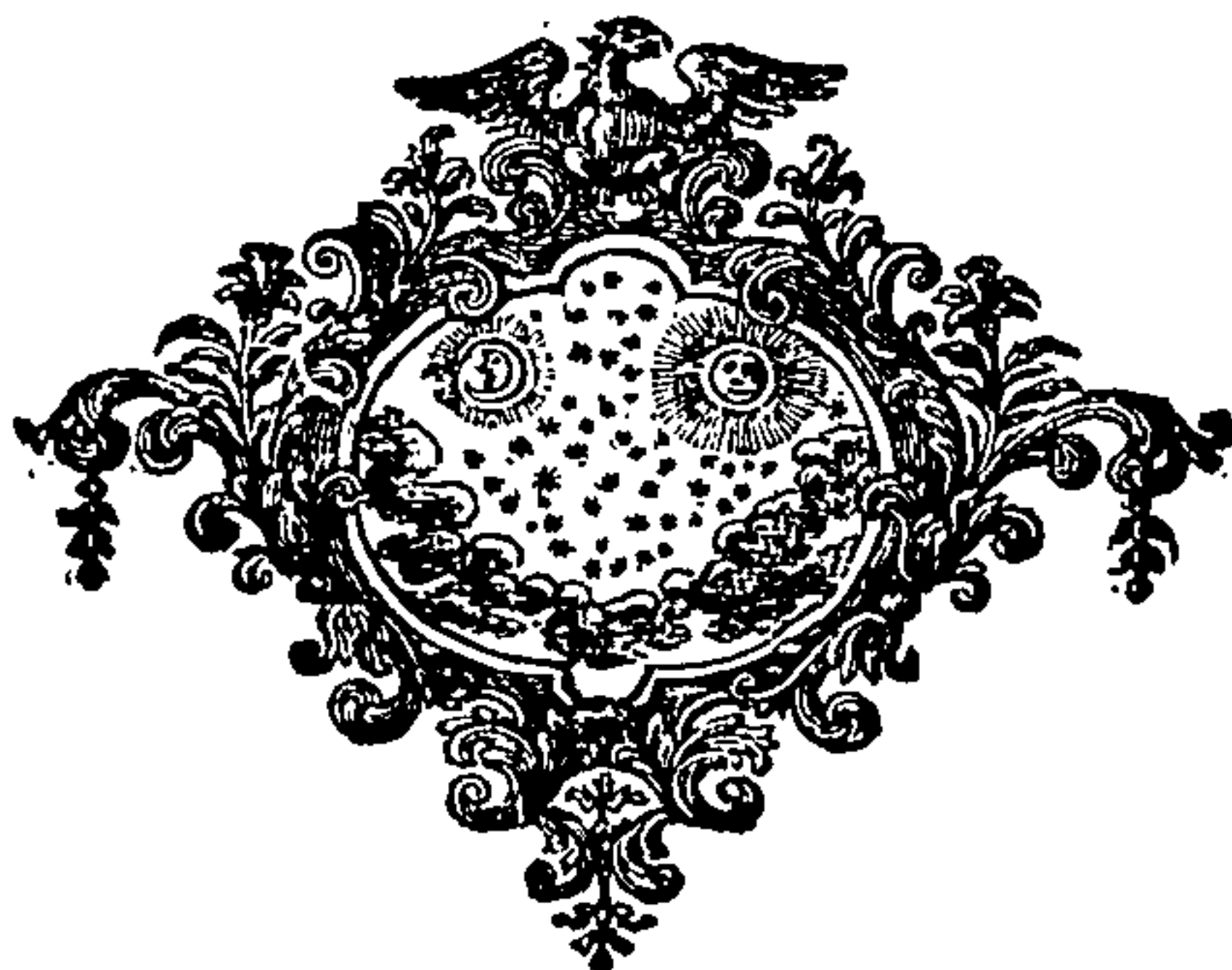
WHEN Lands in general are of very unkind Natures, such as sharp dry Lands, stiff cold Clays, Gravel, &c. then we must, at proper Distances, sink Holes of six or eight Feet Square, and two Feet Depth, if the Land is dry; but if cold, 'tis much the best Way to raise a Quantity of Earth, of the aforesaid Dimension, upon the Surface of the natural Soil; which Earth should be prepared in a Lestel, as directed in the first Section of the second Part of my *New Principles of Gardening*.

AND since that Fruit-Trees (especially Pear-Trees) are apt to shoot down Tap-Roots into the lower *Strata's*, where the Moisture being crude and unprepared, renders their Fruits insipid, and Growth luxurious; 'tis much the best Way, when we plant our Trees, for not only to prune away every Root that seems to tend downwards, but to pave the Bottom with Tile-sheds, Brick-bats, &c. also to prevent others, which Nature may afterwards produce, from entering therein.

WHEN Lands are prepared fit for the Reception of Seeds, Plants, Trees, &c. they should continually be kept mellow, by frequent Digging, Houghings, Manures, &c. or otherwise our first Labours will be in vain: For since that the Moisture which supports the Roots of Plants in dry Seasons, is, in great Part, attracted up by the kindly Influence of the Sun; 'tis therefore absolutely necessary to keep the Surface mellow, that the Heat may have a free Penetration: And this is not
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the only Reason, but by often Dressings, as aforesaid, the Rains (when they happen) have a free Entrance, and consequently store the Earth with greater Quantities of Moisture, necessary for the Support of Plants, than when the Surface being hard and resists, the Moisture cannot enter, but is immediately remanded back into the Atmosphere.

W E T boggy Lands are best drain'd dry by Trenches dug in proper Places, to convey away the too much Moisture to some proper Place of Reception ; and if such Trenches are filled at their Bottoms, about one Foot high, with Pot-sherds, Pebbles, Brick-bats, &c. they will always keep an open free Passage for the Water ; and in want of them, a Laying of Bushes, or Faggots of Beech, Alder, Ozier, &c. will endure many Years, and answer the same End.





C H A P. VII.

*The Manner of raising FRUIT-TREES in a Nursery ;
their Grafting, Inoculating, and Manner of Trans-
planting against Walls, Espaliers, &c.*



THE several Methods of raising Fruit-Trees, are from Seeds, Kernels, Layers, Cuttings, Grafting, and Inoculation.

THE several Kinds of Cherries, Apricots, Figs, Apples, Pears, Peaches, Plumbs, Walnuts, Service, and Mulberries now in being, were without doubt originally raised from their Seeds or Kernels ; but our usual Method now to propagate them, is, either by Cuttings, Layers, Grafting, or Inoculation.

THE several Kinds that may be propagated by Cuttings, are the different Sorts of Grapes and Figs ; but 'tis much the best way to encrease them by Layers.

WHEN we are to encrease them by Cuttings, we should just before the Fall of the Leaf take off the Cuttings from the Mother-Plants ; and having prun'd them to Lengths of about two Feet each, plant them in an East Border, well prepar'd by digging, &c. for their Reception, observing to lay them in sloping, so as their lowest Parts don't exceed a Foot in Depth. They should not be nearer to each other than a Foot at the least, for they are both Plants that require a great deal of Air to perspire in.

THE Vines must be cut at a Bud, but the Figs must not be topp'd, and if their Ends are but four or five Inches out of Ground 'tis sufficient.

IT will be very proper to lay a Coat of good rotten Horse-dung between the Rows, which will not only keep the Earth warm thro'out the Winter, but moist in the Spring, when they are striking Root, and advancing in their Growth.

AND if they are suffer'd to remain there for the Space of two Years, before they are planted out, 'twill be much better, than to remove them the first Year after planting.

N. B. *IF the Spring after the first planting of the Cuttings proves dry, 'twill be very necessary to keep them moist, by frequent Waterings, which will add very much to their Growth.*

BUT the best Way of raising these Fruits, is by Layers, because that the Mother-Plants are a constant Support, during the whole Time of their striking Root.

THE best Season for this Work is *October*, for then they have the whole Winter to imbibe sufficient Juices, necessary for their striking Root early in the Spring.

THE other Kinds of Fruits, *viz.* Cherries, Apricots, Peaches, Pears, Plumbs, &c. being propagated by Grafting and Inoculating, we must, before we proceed thereto, consider of the best Method of raising the best Kinds of Stocks for those Uses.

CHERRIES are commonly budded or grafted on Cherry Stocks, which are raised from the Stones of the common Black Cherry.

APPLES are grafted on Crab Stocks, raised from the Kernels of the Crab, as also on Stocks raised from the Kernels of Apples, of which that called the *Paradise*, is the best to graft on, to make Trees of a small Growth, and produce Fruits in great plenty very early.

PEARS

PEARS are grafted upon Pear Stocks, raised from the Kernels of the wild Hedge-Pear, and on Quince Stocks also, raised from Cuttings or Layers. Those Pears that are grafted on Pear Stocks, are best for light, mellow, warm Soils; and those on Quince Stocks, for wet and cold Lands, some few Sorts of Pears excepted, that will thrive better on Quinces than on Pear Stocks: & *contra*.

PEARS may be grafted on a White Thorn, and Cherries on the Laurel, but the Fruit is nothing the better, and practis'd more for Curiosity than Use.

APRICOTS and *Plumbs* are both rais'd on Plumb Stocks, the first by Inoculation, the latter by Grafting.

PEACHES and *Nectarines* are propagated by Inoculation, either on Peach Stocks, Almond Stocks, Musc, White Pear-Plumb, and St. *Julian* Stocks. Those on Peach and Almond Stocks, are best for hot light Lands, and the Plumb Stocks for those that are more strong and cold. But there are many Sorts of Peaches that are very difficult to make take on either Peach or Plumb Stock, that will very easily on the Apricot; and therefore I recommend to the Curious, That all their Trees, which they intend to be of the best Kind of Peaches and Nectarines, be first made Apricot Trees by Inoculation, and afterwards budded with the several Kinds of Peaches that they desire to have plenty of.

CHERRY-STONES, and Kernels of Crabs and Pears, should be laid thin and well dry'd, when first clear'd of their Pulps; and as soon as the Moisture of the Winter will permit, they should be sown in Beds of well-prepar'd Mould, that is in Nature moderately light and moist; being cover'd with fine Mould, about two Inches thick, and a good Coat of rotten Dung over that, to preserve them from the Winter's Cold, during their Germination.

YOU must not forget to set a sufficient Number of Traps for the catching of Mice, which otherwise will destroy the Kernels, and disappoint you of your Hopes: And in *March*, when the Frosts are over,

and the Spring coming on, take away the Dung, and give the Surface a gentle Houghing over, that their tender Plumes may easily rise thro' the fame.

IF the Weather proves dry during the Months of *March*, *April* and *May*, 'twill be very proper to give them moderate Refreshings of Water, being always kept clean from Weeds, which every one is expected to do, that is a Lover of Gardening.

WHEN the young Seedlings are arrived to the Magnitude of a common Tobacco Pipe in their Stems, they should be transplanted out of the Seed-Beds into a Nursery, planting them at 18 Inches Distance from each other, in Lines three Feet asunder ; for then, by having a free Air always circulating about them, they will become Trees much sooner than when planted very close together, after the common Manner used in Nurseries ; where, for want of a free drying circulating Air, they cannot perspire away the Crudities of their Sap, and consequently cannot thrive.

WHEN the Stocks of our young Plantation are arrived to about half an Inch Diameter in their Stems, they are fit for Grafting and Inoculation. The first Operation being to be perform'd in *February* and *March*, and the other in *June* and *July*.

THE whole Care of these Works, is, to take Cuttings of such Fruits as we would propagate, from Branches that are in a healthy and fruitful State, and not from such as are luxurious, which will not produce any Fruit under a very long time ; and those of one Year's Growth are the best.

'TIS absolutely necessary to take off Cuttings for Grafting a full Month before they are grafted, that, being something check'd, they may greedily imbibe the Juices of the Stocks as soon as grafted, and thereby confirm their Unions instantly, which Grafts that are cut from a Tree at the Instant of Grafting cannot do, because then they are as replete with Moisture as the Stock ; and therefore instead of strongly attracting its Juices, instantly perish.

BUT tho' I advise the taking of Cuttings from Trees one Month before the Time of Grafting, yet it must not be understood that they are to lie out of the Earth all that Time, but must be laid with their great Ends, about three or four Inches in Length, in the Earth, well closed about them, under a North Wall, until you immediately use them at the Time of Grafting

CHERRIES and *Plumbs* are the first Fruits we begin our grafting with, which is generally about the Middle of *February* ; Pears about the Beginning ; and Apples the Middle or End of *March*, when the Sap is a little rarified by the Heat of the Spring ; that is, as soon as the Bark will rise freely from the Wood.

THERE are several Ways of Grafting Fruit-Trees ; some being proper for Stocks that are small ; others for those that are moderately large ; and lastly, others for Trees that are very largely grown.

THE several Methods of Grafting may be reduc'd to three, *viz.* 1st, *Whip or Splice Grafting*, proper for Stocks of the smallest Size ; 2^{dly}, *Stock Grafting*, proper for Stocks of a middle Size ; and lastly, *Rind Grafting*, proper for Trees that are largely grown.

THE necessary Instruments for these Works, are, a very good Knife that cuts very smooth and clean for cutting the Cions ; a good strong Pruning-Knife for to head the Stocks with ; a Saw to cut off such Branches as are too large for the Knife ; a Grafting-Chisel for opening the Clefts in Stocks, whilst the Cions are placed : A good Quantity of sound Bass-Matting, with well-prepar'd Loam, well mix'd with short Horse-dung ; and Wood-ashes, to work in their Hands when the Loam is a little too moist or clammy.

BEING thus prepar'd, every thing is in readiness for Work ; but 'tis much the better Way to have a Boy or Man to loam after you, than to loam your self.

TREES that are intended for Standards, must be headed at about five Feet high ; half Standards at three Feet ; and Wall-Trees at six or eight Inches above Ground.

THE Manner of Splice-Grafting (called Whip-Grafting) is perform'd by making an oblique Section, or sloping Cut like a Pen, in the Cion, (as the Section *c*, *Fig. I. Plate I.*) with a Slit upwards from near the Bottom ; then having cut a small Part out of the Top of the Stock, fit for the Reception of the Cion, as the inward Section *d*, *Fig. IV.* with a downright Slit therein, as *d* ; place thereon the Cion *a b*, so as the Slit of the Cion, being in the Slit of the Stock, the lower Part of the Cion *y*, *Fig. III.* may be exactly smooth with the lower Part of the Cut in the Stock at *t*, *Fig. IV.* And if it happens that the Breadth of the Stock is greater than the Breadth of the Cion, be sure that you place the Cion to one Side of the Stock, so as for their Barks to lie exactly smooth and even with each other ; for then their Sap-Vessels being plac'd directly over each other, they can the easier unite together. If, when you have plac'd your Cion in the Stock, they do not fit close together, you must, with Bass-Mat, bind them close, so that the Wet or Air cannot get in between, and disunite their Union. You must also be careful to see them well loamed ; that the Loam is well closed at the Tops and Bottoms ; that it is not put on too wet, which will cause it to fall immediately, and that 'tis well work'd in all its Parts, so as to have no Cracks therein.

WHEN you head down a Stock for Grafting, you must be careful to cut it off at a Place where the Bark is perfectly smooth, and free from Cankers, Moss, &c.

'TIS absolutely necessary that you cut your Cuttings or Cion against a Bud, as at *b*, *Fig. I.* and that you have at least two others above it, for 'tis by the attractive Power of the Buds, that the Cions draw Nourishment and grow.

AND

AND 'tis also highly necessary that just under the Graft, as at *f*, a Bud be left, to attract Nourishment for the Support of the Graft, and perspire away the Crudities thereof.

IN *May*, when the Cions are united, and have produced Shoots, you must release them of their Bandage, (the Bands with which you bound them) or otherwise they cannot dilate themselves with Freedom, and consequently will not thrive so well. You must also at this time discharge the Stocks of all their lateral Branches, which before were suffer'd to grow, to draw up the Nourishment as aforesaid.

STOCK Grafting, or Grafting in the Cleft, mostly used for Apples, is perform'd as follows :

FIRST, having determin'd your Place to graft at, set your right Foot against the Stock, and with your Pruning-Knife cut it off sloping, (as *v t*, *Fig. II. Plate I.*) ; then placing your Foot at *b*, against the Stock to keep it steadfast, smooth down the Head of the Stock horizontally, as the Line *l k*, so will the Head of your Stock become level, as *i Fig. III.* This being done, apply the Edge of your Pruning-Knife downwards, from the Top of the Stock at *i* towards *b*, and with a Mallet, make the Cleft *i b*, and so is the Stock ready to receive the Cion *q n*, *Fig. V.*

BUT this Work of heading down the Stocks, smoothing, and cleaving them, should be done by another Hand, that you may have nothing to do but cut the Cions and fix them in the Stocks ; which perform as follows :

THE Stocks being cleft, you must therefore cut the Cion in the Form of a Wedge, as *n m Fig. V.* which must always be cut from a Bud, as at *m*, for the Reasons aforesaid ; and then with a Grafting-Chizel open the Slit, and place the Cion therein, so as that their Barks may be exactly even and smooth.

BUT

BUT if the Bottom of the Cut, Part of the Cion *d*, were cut obliquely, as at *o* Fig. VI. they would be easier and better placed ; and then being loamed, as aforefaid, the Work is done.

WHEN Stocks are very large, so as not to be cleft, they must be grafted in the Rind, an old and common Way, well known to most Countrymen, and therefore shall omit that Description.

BESIDES all these several Ways of Grafting, there are many others that are practis'd in *Hertford* and *Devonshire*, by the Propagators of Cyder Fruits, which are not worth the Notice of the Curious, and therefore left out.

THE Manner of In-arching, or Grafting by Approach, being chiefly used on Orange-Trees, I shall therefore omit that, since the Culture of such Exoticks are intended for another Work.

INOCULATION or Budding (and indeed Grafting also) is much sooner learned, and better understood, by seeing the Operations perform'd by a skilful Nurseryman, than by Ten thousand Words ; and therefore to offer any Diagrams of that Kind would be needless.

BUT however it mayn't be amiss if I should speak a Word or two in relation to the proper Seasons, Choice of Cuttings, &c.

THE Season for inoculating Fruit-Trees, is, from the middle of *June* to about the middle of *July*, whilst the Bark rises freely from the Wood ; and if the Weather is cloudy and wet, 'tis so much the better, because, that whilst the Operations are performing, the Sap, both of the Bud and Stock, are not prejudic'd by Heat : And therefore if the Season happens to be dry, the only Times of the Day for this Work, is, very early in a Morning, and late in an Evening, just before the Sun is below the Horizon.

'TIS as necessary to be curious in the Choice of Cuttings from fruitful Branches for Inoculation, as was before said for Grafting ; but these

these for Inoculation should be used as soon as they are taken from the Tree, or otherwise put in Water, and kept fresh till used.

ONE Bud in a Stock is enough to form a good Tree ; but 'tis much the better Way to put two Buds in each Stock, lest one only should fail.

IN the Choice of Cuttings, particular Care should be had to their Buds, *viz.* That they are not Blossom-Buds, which are known by being double, and never produce Shoots, as we desire when we inoculate. And likewise that they are not Shoots that always liv'd in the Shade, whose Buds are immature for want of Perspiration : but such that are strong, not luxurious, that always possessed a free circulating Air, and of the same Year's Growth.

WHEN three Weeks or a Month is past, after Inoculation, you should release them of their Bandage, that the Stock may have a free Dilatation : And if your Buds have taken, they will appear very plump and of their natural Colours, as when first put in. If that Part of the Leaf which is left to the Eye of the Bud drop off freely, 'tis a good Sign that they are united ; but if it withers and sticks firm thereto, 'tis a certain Sign that the Bud is dying or dead.

IN *February*, after Inoculation, you must survey your Stocks, and those that have their Buds perfect must be headed off, about three Inches above them, that in *March* the whole Nourishment of the Stock may be fully applied to the Growth of the Bud, which the first Year will be very considerable, and especially if all the lateral Shoots of the Stock are displac'd when they appear.

THE Masculine, Orange, and *Roman* Apricots, are the first Fruits that should be inoculated ; and after them, Cherries, Peaches, Plumbs, Pears, &c. And it often happens, that if you take the Advantage of the Beginning of the Season, you may, before the Season is gone, Re-inoculate such that have missed at your first Inoculation.

PEACH Stocks are generally large enough to graft the first Year after their Kernels are set ; but Cherry Stocks, Plumb Stocks, &c. not till the third Year, and sometimes not till the fourth.

THE next Spring after the Buds have made their Shoots, those Parts of the Stocks which were left above the Buds, should be cut away close to the Bud, and cover'd with a Salve made of Mutton-suet, Bees-wax, and Rosin, as I shall direct in my Chapter on Pruning the Branches of Fruit-Trees, to preserve the Stock from the Injuries of Wet, which is oftentimes destructive to them.





C H A P. VIII.

Of ASPECTS and their ACCIDENTS.

IT is very unreasonable to expect that two South, or East, &c. Walls, in the same Latitude, planted with the same Fruits, of the same Age and Goodness, should produce Fruits equally as good and early, when the Soil of the one is a moderate, light, warm Loam, and the other a strong, cold Brick-Earth, or Clay.

THESE different Natures and Qualities in Soils are seldom consider'd, and therefore when good Kinds of Fruits are planted in bad Soils, or in Soils whose Principles are disproportion'd to those of the Fruits, they are either said to be bad Kinds, (tho' naturally very good) or else the Judgment of the Gardener is condemned, notwithstanding that he may happen to be one of the best Sort, as Gardeners are now a-Days.

AND when it falls out that a bad Soil and a bad Gardener happen to meet together, which is the very Case of ten Gardens to one thro'out *England*, then the Production must consequently be very bad.

I HAVE known some East, and even North-East Walls; whose Soils have been very kind, produce better and earlier Peaches and Cherries, than some South and South-East Walls, whose Soils have been very wet and cold : Therefore when People have good Aspects and bad Soils, 'tis impossible they can have any good Fruits : Hence it appears, that to have good Fruits, we must first consult our Soil, and if, upon Examination, it appears to be incapable of the Productions we expect, why then our only Business is to help Nature in the best Manner that our Place and Conveniency will permit.

THUS much for the different Natures of Soils ; now I will proceed to speak something in relation to Aspects in general.

SINCE that Mr. *Hales* in his *Vegetable Staticks*, p. 127. has shewn the Probability of Rains and Dews being imbibed by Vegetables at their Leaves, in which are many crude Particles, which, when confin'd, or in too great a Quantity, are injurious to the Growth of Trees ; we must therefore consider of such Aspects, that will admit the Sun's Influence to dissipate them before they become prejudicial.

THESE Crudities are first dissipated from the East and South-East Walls, which last declining about 20 Degrees, is the very best Aspect for most Kinds of Fruits : Next to this is the South and South-West ; and last of all the West. And as the South-West and West Aspects retain the Crudities of the Dew longer in the Day (which oftentimes chills the Fruits) than the South-East and South, so are their Fruits of a lower Flavour, and later ripe.

THE West Aspect receives the Sun when 'tis past the Meridian, viz. about one o'Clock, (tho' very obliquely) which being late in the Day, those Crudities do therefore remain a long while before they are dispersed ; and 'tis therefore that the Fruits of a West Aspect are eight or ten Days later in ripening, than those of the South-East and South.

DIRECT East Walls have the Crudities of the Dew soon dissipated ; but then they have but little of the Sun, for at eleven the Rays become very oblique, and the Heat very little, and soon after none at all.

BUT a direct East Wall is far preferable to a direct West Wall, because the Heat of the Day comes gradually on it, and leaves it in its Meridian of Heat ; but a West Wall is only favour'd in the Violence of the Heat, by the Obliquity of the Sun's Rays, as they first fall thereon, which cause the Heat to be much more gradual, than if they were to fall direct at their first Onset.

WHEN

WHEN sudden Heat comes on Fruits, it shrinks their Sap-Vessels, and consequently they cannot imbibe and receive so great a Quantity of Nourishment. This is the Case of direct West Walls ; and 'tis therefore that their Fruits are lesser in Magnitude than those of the South and South-East, which receive their Heat by Degrees.

'TIS observable that in *England* the hottest Part of the Day in the Summer Season, is about two or three in the Afternoon, when the Heat is oftentimes so very great, as to exhale away more Moisture than is necessary ; and consequently at all such Times the Goodness of Fruits is greatly diminish'd ; therefore when we have it in our Power to make our own Choice, we should chuse such an Aspect, whose Situation is such, that at that very hot Part of the Day, it should be discharged of that violent Heat.

NOW seeing that the hot Part of the Day generally happens when the Sun is nearly South-West, it therefore follows, that at that time a South-East Wall, declining 20 Degrees, is nearly shaded ; for as the Rays are then very oblique, they have not so great a Power on the Sap-Vessels, as to exhaust away a more than ordinary Quantity of Moisture : And from hence it is, that a South-East Aspect, declining about 20 Degrees, is the very best of all others.

THIS being judiciously consider'd, 'tis very easy to account for the Reasons of a South-East being better than a direct South Aspect : For when the South-East Aspect is discharged from the extreme Heat of the Day, the direct South Aspect is still expos'd to it, whereby its Fruits are oftentimes injur'd, by having their Sap-Vessels dried by the extraordinary Heat thereof.

NORTH Aspects, in warm Summers, will produce good Plumbs, and Duke Cherries, when those of the East, South, and West Walls are gone, and Morello Cherries also.

NORTH-West and South-West Walls are observ'd to produce good Apricots ; and, if I may be allow'd to speak my Opinion, much better than a South Wall, (tho' not so early) because that the extraordinary

N

Heat

Heat of a South Wall causes them to be mellow and mealy as soon as ripe, which they are found not to be when planted against Aspects of lesser Heat.

SOUTH Aspects are only liable to too much Heat in the latter Part of the Day, as before observ'd.

EASTERN Aspects are only liable to the drying cold Easterly Winds, which being of a very dry exhaling Nature, do oftentimes exhaust too great a Quantity of Moisture from the Blossoms of Fruits, whereby they perish.

THE West Walls being fully defended from the exhaling Nature of these Winds, are therefore more fruitful ; but they are fully exposed to the Western Winds that blow in the Autumn, which are rather more prejudicial to Standard than Wall Trees.





C H A P. IX.

Of the Manner of Planting FOREST-TREES, to defend Plantations of Fruits from the Injuries of North, East, and West Winds.



THE most proper Kinds of Trees for this Purpose, are the Lime-Tree, the *English* and *Dutch* Elms, Horse-Chesnuds, Abeles, Poplars, &c.

THE first Work to be done, is to prepare the Soil fit to plant in ; and if it happens to be naturally a good fresh deep Loam, then a common Trenching is sufficient, being perform'd as early in the Winter as the Season will permit, which is also the best Time to plant in.

BUT if your Land is poor, then you must help it with fresh Earth, Compost, &c. and if perfectly barren, then you must sink Holes of ten Feet Diameter, and two Feet Depth, taking away the barren Earth, and make good again with fresh untried Earth, Compost, &c. as recommended in the first Chapter hereof.

SOMETIMES it happens that the first Spit is very good, and the next good for nothing, which is much better than when the whole is bad, because then the lesser Addition of fresh Earth, &c. will suffice.

BEFORE you plant your Trees, place the Turf at the Bottom of the Hole, being chopp'd very small ; then raising a small Hill of fine fresh Earth where the Tree is to be plac'd, bed the Roots therein, and carefully fill in and close them well about all their Parts, that there be no hollow

hollow Places left, where the Earth cannot close about their Roots, which oftentimes is the Death of many fine Trees.

THE Method of Planting Trees in Pap, much practis'd by that great Encourager of Planting and Gardening, the Honourable *James Johnson* of *Twickenham*, is a very sure Way for the well mixing of Earth about every small Fibre, whereby the Roots are enabled to imbibe Moisture with great Force.

WHEN Lands are wet and cold, plant shallow, and in the Spring; but if hot and dry, or moderately moist, a moderate Depth, and as soon in the Winter as the Moisture of the Season will permit.

THE Distance that these Plantations of Defence should be from the Walls or Bounds of your Fruit Plantation, should be about 50 or 60 Feet, or more if your Land will permit.

THEIR Distances in the Rows may be 10, 12, 15, 20, &c. Feet, for as I have already proved that the closer together Trees are planted, the more they aspire in Height, &c. therefore the nearer they are planted, the sooner they will become useful.

BUT it will be convenient that between every Row there be left a sufficient Distance, that their lower Branches may enjoy a free drying Air, or otherwise they will become saturate with Sap, for want of free Perspiration, and thereby perish. Forty or fifty Feet between each Line is sufficient for *English* Elms, Lime Trees, Horse Chesnuts, &c. but for Abele, Poplars, Withy, &c. 60 or 70 Feet, which last should never be planted but in very wet and cold Land, where the others will not thrive.

IF by the Situation of Hills, Clefts, &c. any Part of your Garden is more than ordinary expos'd to violent Winds, the best Way to guard against them, is to plant Clumps or Platoons of such Forest-Trees that are most natural to the Soil, at proper Distances, so as to destroy the Violence thereof before it reaches our Fruit-Garden.

THE

THE Advice given by the Author of the *Retir'd Gardener*, for Pruning off the lateral Branches of the Heads of Forest-Trees, at their Time of Planting, to Pyramidical Shapes, is entirely wrong ; for those Arms so cut off, are ever after as so many Conduits or Pipes, imbibing or conveying Rains into the Trunks, which very often cause their Death.

AND (as he very justly observes) 'tis also very prejudicial to Head those Trees ; therefore if we hope for Success in these Plantations, preserve the Roots in as great a Quantity as possible, mix and close the Earth well about them ; cut close all Side Branches, and carefully preserve their Heads.

WHEN your Trees are planted, be careful of securing them with Stakes, from the Insults of Wind and Cattle, and cover the Surface of the Ground three or four Inches thick, for about two or three Feet about their Stems, with long Horse-dung, Fern, &c. to preserve their Roots from the Injuries of Cold in the Winter, and Heat in the Summer : And if these Coverings were cover'd with Earth about three or four Inches thick, 'twould add very much to the Preservation of the Trees.

THE making of Basons about the Stem of every new-planted Tree, being natural to every Gardener, I need say nothing thereof ; but if the *March* and *April*, after planting, should be very dry, I must recommend to his Care, that they be well water'd, at least once a Week, to supply the Expence of Perspiration, at that time when their tender Fibres are seeking out for proper Nourishment.





C H A P. X.

Of the Velocity wherewith Nourishment enters the Roots of FRUIT-TREES; and the Reasons and Manner of Pruning their Roots and Heads at the Time of Transplanting.



THE Reason that Gardeners give for reducing the Heads of Trees at the Time of Planting, is very just; for they say, if they are not reduced, their Roots cannot support them, because that in taking them up many are cut and broke off, and thereby, being less in Quantity, are less able to imbibe Nourishment for their Support, and consequently should be proportionably reduc'd.

OF this likewise all our famous Authors on Gardening, from the Time of *Adam* to this present Moment, take Notice, and say, that for the aforesaid Reason, the Heads of Trees must be reduced at their Planting; but not one of them as yet has ever attempted to lay down a reasonable Rule for the Performance thereof, or can any do more than say it must be so. But since Demonstration is undeniable and self-evident, I shall here communicate two Experiments which I made this Summer, that will demonstrate the Truth thereof, and lead the Curious in Planting into a reasonable and demonstrable Method of Pruning.

E X P E R I M E N T I.

I MADE Choice of a *Roman* Nectarine Tree, that was in a thriving State, whose Leaves were nearly equal, which I number'd, and found them

them to be 612 : Then on a Piece of Paper I drew parallel Lines, at $\frac{1}{4}$ of an Inch Distance from each other, as the Lines *a a*, &c. *Fig. VII. Plate I.* and also others at the same parallel Distance, at Right Angles to the former, as *b b*, &c. constituting little Geometrical Squares, each containing $\frac{1}{16}$ Part of an Inch.

THIS being done, I laid one of the Leaves thereon, and with a Black Lead Pencil traced about the Edges of the Leaf, and then numbering the little Squares within that traced Line, I found their Number to be 116, which being divided by 16, gives square Inches $7\frac{1}{4}$.

$$\begin{array}{r} 16)116(7\frac{1}{4} \\ \underline{112} \\ 4 \text{ remains, equal to } \frac{4}{16}, \text{ or } \frac{1}{4}. \end{array}$$

N. B. *WHEN the Leaves of a Plant are of different Magnitudes, which generally happens, they must be separated into as many different Parcels ; and then measuring the Surface of one in each Parcel, and knowing the Number of Leaves therein, may proceed as follows :*

THE Number of Leaves on the Tree 612, being multiplied by $14\frac{1}{2}$, the double Content of the Leaf's Surface, (because their Perspiration is perform'd as well by the under, as the upper Part of the Leaf) and the Product will be the Area of all the Leaves.

$$\begin{array}{r} 612 \\ 14\frac{1}{2} \\ \hline 2448 \\ 612 \\ 306 \\ \hline 8874 \text{ square Inches, the Area of the Leaves.} \end{array}$$

HAVING thus obtain'd the Surface of the Leaves, wherewith their Moisture is perspired away, I then proceeded to find the Surface of their Roots, where they imbibed and received it. For whatever Analogy the
Surface

Surface of the Roots of every Plant naturally bears to the Surface of their Leaves, so are their imbibing and perspiring Powers proportionable; and according to those Proportions must the Heads of Plants be reduc'd, when transplanted.

I DUG up the Nectarine Tree carefully, and preserv'd all its Roots, (the very Fibres excepted) : It had five main Roots, extending themselves nearly horizontally, about three or four Feet from the Stem, with many lateral Roots of different Lengths : The Girts of each of the main Roots, at the Body of the Tree, were three Inches, and the Length of each being three Feet ; therefore multiplying 36 Inches, which is equal to three Feet, by $1\frac{1}{2}$, the half Girt at the Stem, it being conical, the Product will be the Surface of one main Root.

$$\begin{array}{r}
 36 \\
 1\frac{1}{2} \\
 \hline
 \text{Product} \quad - \quad - \quad - \quad 54 \text{ square Inches,} \\
 \text{Which multiply again by} \quad 5 \quad \text{the Number of main Roots;} \\
 \hline
 \end{array}$$

Product $- \quad - \quad - \quad 270$ square Inches, the Surface of five main Roots. Each main Root had (one with the other) 430 lateral Roots, whose mean Girt, at the main Root, was half an Inch, (the large ones next the Stem or Body of the Tree being a full Inch, and those at the extreme Part of the main Roots, $\frac{1}{4}$ of an Inch, whose half is half an Inch, the mean Girt thro'out). The Length of the largest and longest of these lateral Roots was each about nine Inches ; and of the smallest and shortest, about three Inches ; therefore their mean Length is six Inches. Now 430, the Number of lateral Roots on one main Root, being multiplied by 6 Inches, their mean Length, the Product will be their whole Length taken together.

$$\begin{array}{r}
 430 \\
 6 \\
 \hline
 \text{Product} \quad 2580 \text{ the whole Length of all the la-} \\
 \text{teral Root, belonging to one main Root:}
 \end{array}$$

NOW as their Length is found to contain 2580 Inches, and their mean Girt half an Inch, therefore multiply 2580, by $0 \frac{1}{4}$, and the Product will be the Area of their Surfaces.

$$\begin{array}{r} 2580 : 0 \\ 0 : \frac{1}{4} \\ \hline \text{Product} \quad 645 \quad \text{square Inches, the Area required.} \end{array}$$

AND as each of the other main Roots had the same Quantity of small Roots, therefore multiply 645, by 5, and the Product will be the whole Area of the lateral Roots.

$$\begin{array}{r} 645 \\ 5 \\ \hline \text{Product} \quad 3225 \quad \text{square Inches, the whole Area of the lateral Roots.} \end{array}$$

TO this add the Area of the five main Roots, and their Sum will be the Area of the whole Root required.

The Area of the five main Roots	270
The Area of the lateral Roots	3225
Sum	<u>3495</u> square Inches.

So that now the Area of the whole Plant, is in its Leaves 8874
And Roots - - - - - 3495

IF we divide the Area of the Leaves, by the Area of the Roots, the Quotient will discover their Analogy to each other.

$$\begin{array}{r} 3495 \overline{) 8874} (2 \frac{1884}{3495} \\ \underline{6990} \\ 1884 \end{array}$$

1884 remains, equal to $\frac{1884}{3495}$, which being reduc'd to its lowest Denomination $\frac{628}{1165}$, is something more than $\frac{1}{2}$.

P

NOW

NOW since that the Surfaces of the Roots, whereat the Nourishment is imbibed, are full $\frac{2}{3}$ less than the Surfaces of the Leaves, where the Perspiration is performed ; it therefore follows, that the Velocity with which Moisture enters the Roots, must be $\frac{3}{2}$ greater than that of Perspiration.

HENCE it is that the Roots of Plants, whose upper Parts are of great Growths, should be preserv'd in as great an Abundance as possible ; and we are hereby taught the Reason of reducing the Heads of Plants at the Time of Planting.

FOR since that the Head of this Tree in its natural Growth, when its Roots were all perfect and fix'd in the Earth, did then make such a Demand of Moisture for its common Support, that caused the Velocity in the Roots to be $\frac{3}{2}$ greater than in the Leaves ; we may from thence conclude, That the reducing its Head at the Time of Planting was absolutely necessary.

IN this very Point of Planting many People are much out, because that reducing the Heads of Trees at first Planting, causes them to have a lesser Appearance than they desire, and therefore will not suffer them to be reduced proportionable to their Roots ; so that they either remain in a decaying languishing State, or instantly die ; for their Roots being much reduced by removing, they cannot imbibe Moisture sufficient for the Support of their Heads, which are then in too great a Quantity. Therefore 'tis always to be remembred, at the Time of Pruning and Planting, that the greater Proportion the Area of the Roots bears to that of their Leaves, so much the more they will be enabled to imbibe Nourishment for the Support of the Plant, which consequently will thereby be more vigorous in its Growth, and better able to endure dry Seasons, &c.

NOW, in Consideration that this Experiment has proved, that the Sap, which is the Life of Vegetables, (as Blood is of Animals) must pass much swifter thro' the Surface of the Roots than Leaves, it therefore follows, that 'tis very reasonable, when Trees of any Kind are taken out of Nurseries, &c. for transplanting, their Roots should be preserv'd in as great a Quantity as is possible, that Nature may have the greatest
 2 Liberty

Liberty of imbibing Moisture sufficient for the Support of the then reduced Plant. The Consideration hereof I recommend to the serious Consideration of my *Brother-Gardeners*, and indeed to all others concerned in the Planting of Fruit and Forest-Trees, which are very often lost for want of Judgment herein.

THE great Want of this Discovery has caused the Death of many Thousand valuable Plants, that have died by being unskilfully pruned at their Time of Planting. For Gardeners have but one Rule or Method for pruning the Roots of all Kinds of Plants, and even that they can give no manner of Reason for : For was any one of them to be ask'd such a Question, their Answer would be, " Why I know it to be so, my " Father or Master did always use to prune in this Manner, and their " Trees seldom died, and I my self have practis'd the same, as taught by " them, with good Success ; I know it by Experience, which is the best " Master : " And soon, without considering the great Demand of Nourishment that Nature makes in one Kind of Vegetable more than another, according to their different Growths, which cause as great a Difference in the Manner of pruning their Roots.

AS for Example :

IT is observ'd, that the Cabbage (which is a Vegetable of a quick Growth above Ground) draws its Sap with a very great Force, (its Roots being naturally but few, when compar'd with Vegetables, whose Roots are much more, as *Dutch Box*, and Growth much slower) : So that from hence it appears, That Plants of a quick Growth and strong imbibing Nature, should have as much Root allow'd them, at Planting, as possible.

E X P E R I M E N T II.

I MADE a second Experiment in the like manner on a *Battersea* Cabbage, that was about half grown, and found that the Surface of its Leaves exceeded the Surface of the Roots near twelve times ; so that the Roots did imbibe Moisture with near twelve times the Velocity that the Leaves perspir'd it away. And were that Cabbage-Plant to have been planted again, the Leaves of the Head must have been proportionably reduc'd,
as

as 12 is to 1, or rather as 15 to 1, because that there is a continual Demand of Nourishment by the Head, during all the Time that Nature is preparing its new Fibrous Roots, to strike fresh again into the Earth.

WE may observe from this Experiment of the Cabbage, that as their Growth is naturally very quick and great, and Roots small in Proportion to their Heads, (whereby their Nourishment is imbibed with great Velocity) the Soil wherein they are planted should be very rich and full of Moisture ; for otherwise their very great imbibing Force would soon exhaust it dry, and thereby perish. And 'tis always seen, that where-ever Cabbages, Colliflowers, Savoy, &c. are planted, they impoverish the Ground very much, altho' perhaps 'twas in good Heart at their first planting ; and the like of all other Plants in Proportion to their more or less Quantity of Roots.

WE should also observe the various Distributions of the Roots of Plants ; for thereby we are in part directed how to adapt them to their proper Soils : Thus Nature informs us, that the Flax, Arbutus, *English* Oak, and many other Plants that naturally produce Downright or Tap-Roots, delight in very deep-holding Lands ; and others, as the Ash, Elm, Lime, &c. whose Roots run nearly horizontally within two and three Feet Depth, love Land that is rich and shallow.

THE different Velocities of imbibing and perspiring Nourishment being accounted for, 'tis very easy to conceive the Reasons of pruning the Heads of Fruit-Trees at the Time of Planting, and that the more they are reduc'd, the better it is for them.

AND, as it has been observ'd before that Plants perspire whilst they are striking Root, 'tis therefore that Moisture is absolutely necessary at Planting, to support them until they are enabled to attract Nourishment themselves ; which Moisture ought to be no more than is agreeable to the Nature of the Plants ; for I have seen many Trees kill'd (and particularly Ever-greens) by having too great a Quantity of Moisture ; therefore in wet and cold Lands beware of deep Planting.

THE Seasons for Planting Fruit-Trees, are, *October* and *February*; the first in Lands that are moderately light and warm, the last in Lands that are cold and wet.

TREES planted in light warm Soils, in *October*, or sooner if the Season permits, will strike Root before the Winter comes on, and vigorously shoot in the Spring: But if Trees are planted at that Season in very wet and cold Lands, the too much Moisture will rot their Roots, or at least chill them so very much that they very seldom recover it.

ALL new planted Trees, of both Seasons of Planting, should be kept water'd in *March* and *April*, when those Months prove dry, or otherwise they seldom make good Shoots the first Year. 'Tis absolutely necessary to cover the Surface of the Earth, at least one Foot about the Stems of the Trees, with well rotted Horse-dung, plac'd in the Form of a Cup, the better to receive the Water when any is given; which Dung not only preserves the Moisture from being suddenly exhaled away, but communicates a Nourishment at watering also.

WHEN you plant Wall Trees, place their Roots about nine Inches or a Foot from the Wall, with their Heads within an Inch thereof: For when their Roots are planted close to the Wall, as is commonly done by the Ignorant, their Bodies burst out from the same as they increase in Magnitude, and thereby cannot be kept in a handsome close Order.

THE Heads of Wall-Trees at Planting should be reduc'd to the first four Side Buds, above the Graft or Place of Inoculation, because that from four Shoots we may form a good Tree.

ALL forward Buds should be displaced as soon as they begin to shoot, that those which lie parallel to the Wall, may receive the full Benefit of the Nourishment.

IF the first Shoots appear to be very strong and luxurious, when they have form'd four Buds, nip off their Ends, which will oblige Nature to force out a Branch at every Bud, and so by distributing the Sap of each Branch in four small ones, they will become fruitful, and not luxu-

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rious,

rious, as they would have been, had the Sap been wholly imployed in one Shoot only.

BEHIND the Place of Inoculation, or of Grafting in every Wall Tree, there is a small Part of the Stock which is generally dead, which at Planting must be cut close to the Shoot, and placed next to the Wall : For when they are placeed outwards, as sometimes is done by unskilful Planters, they imbibe Wet, which oftentimes rots the Body of the Stock in a short Time.

'TIS absolutely necessary and very advantageous to cover the Wounds of Trees, when cut, with a Salve that will preserve them from the Injuries of Wet and Cold. The Composition is as follows ; Take half a Pound of Rosin, a quarter of a Pound of Bees-wax, the same Quantity of Pitch, and two Ounces of Mutton-suet ; melt them together, and when moderately cool'd, so as to be liquid, dress the Wounds with a Feather, Brush, &c. and no Wet or Cold can penetrate or injure them.

ALL Wall Trees that are budded or grafted very low, should have their Grafts, when planted, about two or three Inches above Ground ; but do not on this Account plant their Roots over deep, for the Reasons before deliver'd.

'TIS a Practice among Gardeners, to plant Peach-Trees in *October*, with their whole Heads on, and let them remain so until the *February* or *March* following, and then head them down, which is doing the Trees a great Prejudice ; for the Roots do not only imbibe a more than ordinary Quantity of Crudities thro'out the Winter, occasion'd by the attractive Force of the Head, but in the Spring when the Gardeners head them down, the Tree is disturb'd in its Roots, which are then preparing to, or are penetrating the Earth, and thereby oftentimes destroy'd.

I NEED not say any Thing more on the Roots of Fruit-Trees, since I have already prov'd, that the more Roots a Tree hath, the more able it is to imbibe Nourishment : Therefore the whole Care in the Management of Roots, is, that they are bruised and diminish'd as little as possible in taking up, that the Number of small Fibres be thinn'd discretionally, so as to let the Earth freely about all their Parts ; that all

Bruises
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Bruises be cut entirely away with a very sharp Knife, and that every Root be regularly placed, with the Earth well closed about it.

WHEN we are to plant Trees for Espaliers, we must have regard to place the Buds of the Trees parallel with the Espalier, so that when their Shoots are produc'd, they may lie parallel to the same, and be easily nail'd thereto ; and here, as well as in Wall Trees, all forward Buds are to be displac'd, and luxuriant Branches nip'd at the fourth Bud, as aforesaid.

WHEN we plant Fruit-Trees to make Dwarfs of, we should head our Trees at such Heights, so as to have at least four Buds nearly at right Angles to one another, that those Shoots which they produce may form the Head desired.

THE whole Management of Dwarf-Trees, consists in the Manner of Pruning the Ends of their Shoots, stopping the Luxuriancy of Branches as aforesaid, and the true Distance of one Branch from the other.

NOW as Dwarf-Trees are desired to grow with Concavities in their Middles, we must be sure to prune their leading Shoots at an under Bud, so that when the next Shoot is produced, it may shoot outward, and thereby be conformable to the Form desired : But if you cut at an upper Bud, then the next Shoot will grow inwards, and destroy the Form required.

HENCE it follows, that by observing the Situation of Buds, a Branch may be produced to fill up any Place desired.

STANDARD-Trees are planted as Wall-Trees and Dwarfs ; and 'tis much better to cut in their Heads very close, than to plant them very large. If we are careful to prune at under Buds, as directed for Dwarfs, and rub away all other inward Buds, we may form very handsome Heads in the first Year.

THE larger Standard-Trees are, so that they are well rooted, the better, and will produce Fruits sooner, and in greater Quantity, than
such

such small Trees, which are usually planted, provided that they are secured from the Injuries of Cattle, Winds, &c.

THE Distance of Fruit-Trees from one another, is a very material Point to be consider'd in Planting ; for if we plant too near, we soon exhaust our Soil, and destroy our Trees, for want of Air for Perspiration ; and if we plant too thin, we suffer a Loss by having less than we might ; but of the two Evils the last is the best.

PEAR-Trees require much Room to extend themselves, and some Kinds more than others, as the Summer Bon-cretien, and many other Kinds, which when I come to their Description I shall take Notice of ; but in general we may assign 30 Feet for their Distance. And if between every two Trees we plant two others of different Kinds, as a Plumb and a Cherry, or a Peach and an Apricot, to be cut away as the Growth of the Pears require, we shall have no Loss in the Walling, during the Time of their Growth.

WHEN we plant entire Walls of Peaches, Cherries, Plumbs, and Apricots, they may be placed at twelve, fourteen, or sixteen Feet Distance, except the early small *May* Cherry, which need not be more than eight or ten Feet apart.

STANDARDS planted in the open Air, should be 30 Feet apart at the least, but 35 is much better, and if you plant Dwarf-Trees between them, 40 Feet is full near. These Distances may appear to some People very large, but when they consider the Necessity of a free circulating Air for Perspiration, and the Benefits of an under Crop, they will find the Advantages thereof.

N. B. *If the Roots of Trees are very dry after taking up, soak their Roots for an Hour or two, in a Pound of Water, &c. but immerge no more than their Roots, that their Heads may strongly attract the Water.*

If your Trees, after taking up, are to be sent any Distance, be sure that you securely pack them up with Straw and Mats, from the
t Winds

Winds and Air, which oftentimes exhale away all their Moisture, and thereby perish.

IF Frosts prevent the Planting of Trees after taking up, they should be kept in a warm Cellar, &c. and cover'd close from the external Air, until the Frosts are gone; and then, soaking their Roots, plant them as before directed.

I HAVE already advised the preserving of Roots in as great a Quantity as can be at taking up, at which Time I must caution you not to strain them by drawing or wrenching, &c. but take Time, dig large deep Holes, and take them up with Care.

WHEN you purchase Trees from a Nursery, always observe that the Soil wherein you are to plant them, be as good or rather better than that of the Nursery, and especially if your Trees are not over-and-above strong; but luxurious Trees being planted from a rich Nursery into a poorer Soil, are oftentimes made fruitful thereby.

WHEN you are to prune the Roots of a Tree, hold it in your left Hand with the Head behind you; and then pruning them with a very sharp Knife, the Orifices of each Root will be placed downwards when the Tree is planted, whereby it can more strongly imbibe Nourishment, than when the Face of the Cut is upwards, as often practis'd by unskilful Gardeners.

'TIS at the extreme Parts of the Roots, where the Cut is made, that they draw fresh Roots, which, if bruised in cutting with a bad-edged Knife, or not cut at all, putrifies and dies.





C H A P. XI.

*Of the Management of FRUIT-TREES after Planting ;
their Season and Manner of Pruning, Nailing, &c.*

ALTHO' 'tis absolutely necessary that great Care should be taken in the Choice of Trees before we plant, as well as in the Preparation of Soils, Manner of Pruning their Heads and Roots, and Planting ; yet if they are not well govern'd afterwards, our Labours and Expences are all lost. There are many Gardeners in *England* that have had the Management of Fruit-Trees from their first Planting, and been very successful therein, but it has all been by mere Accident, for there's not one of them all can account for any one Operation they do therein.

IF we ask them why a Tree must be pruned, they answer as Mr. *Wise* and Mr. *Carpenter* have done in their *Retir'd Gardener*, To keep it in Order, that the Fruits may not be injur'd or depriv'd of Nourishment, by the small and luxurious Wood—and that it may continue a long Life : Which Reasons are tolerably good were they well executed ; but to their Misfortunes, they always, in their best Practice, not only suffer such Sorts of injurious Shoots to be produc'd, but load Nature with so great a Burthen of other Wood, that a few Years bring about their irrecoverable Decay.

THIS I am certain will at first be understood by them as Self-conceit, for, to their great Misfortunes, there's no Sort of People breathing so vastly conceited and ignorant as most of our *English* Gardeners are, who therefore imagine all the World to be like themselves : But however, if
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they can but curb their superficial Imaginations, and coolly read, so as to perfectly understand the following Paragraphs, they will plainly discover their long riveted Ignorance, and be led into a natural and reasonable Method of working, whereby they'll be enabled to account for all their several Operations in the Management of Fruit-Trees, with abundance of Pleasure and Certainty.

THE whole Management of Fruit-Trees after Planting, may be reduced to a very few Rules, and have the desired Success.*

R U L E I.

DISPLACE all forward Buds, by rubbing them off when they first appear, and then the whole Nourishment will be distributed to the necessary Branches. *By observing this Rule, your Trees will always lie close to the Wall, and be free from the Snags, which are very disagreeable and unprofitable ; for whatever Fruits are produced in such Situations, are never better than those on Dwarfs or Standards.*

R U L E II.

WHEN luxurious Branches only are produced, stop them, when each Branch contains four or five Buds in Length, by nipping off the leading Buds with your Finger Nails, which will cause them to produce new Branches from every Bud that will become fruitful ; *for that Nourishment which Nature intended for one Branch, will be distributed into three or four, which consequently cannot be so luxurious as when wholly employ'd in one Branch : Therefore if this Rule is well observ'd, we need never be troubled with luxurious Wood.*

R U L E III.

IF Fruit-Trees produce three or four Shoots, and all weak, displace the two weakest, that the whole Nourishment may be wholly imbibed by the strongest, which will enable it to form a good Head.

R U L E

R U L E IV.

AS the Growths of the several Branches advance, keep them nail'd to the Wall ; but be sure that the Distances between Branch and Branch are never less than the Length of their Leaves, when fully grown : Therefore as Leaves are not come to their Maturity in the Spring, you must at that Time nail them at a greater Distance than aforesaid ; that when they are fully grown, they may in general possess a free drying Air, and not shade each other, to their almost total Ruin, for want of Perspiration.

ON this very Point depends the whole Success of our Labours ; for when Fruit-Trees are loaded with great Quantities of Branches, nail'd very close, a great Part of them are saturated, and clog'd with the Crudities of their Sap, for want of a free Air to perspire in, and thereby become barren and useless. This is plainly demonstrated in the Growth of Trees planted very close together, as in a Wood, where the lower Branches, tho' nearest to the Fountain of Sap, (*viz.* the Roots) are either dead, or very near it ; whilst those at the Top, which are farthest from the Roots, but in a drying Air, perspire freely and expand much : And in Fruit-Trees 'tis the very same, when their Branches are nail'd nearer together than the Lengths of their Leaves.

BESIDES this Advantage, of having Fruit-Trees fruitful in all their Parts, is not the only one ; for by this Method of thin Nailing, there will not be half the Quantity of Wood for the Root to maintain, and consequently those Fruits that are produc'd, will be much better supported with Nourishment, and in greater Perfection, than when a Multitude of Wood and Fruit is fed but with the same Nutriment.

HENCE it follows, That as Fruit-Trees differ in the Length of their Leaves, so will the Distances of their several Branches be also different ; and therefore the general Rule hitherto practis'd by Gardeners in laying the Branches of all the several Kinds of Peaches, and other Fruits, at the same Distance, appears to be a great Mistake.

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THERE are many excellent Kinds of Fruits which produce great Plenty of Blossoms, and but very little Fruit, as the old *Newington*, and many other large Kinds of fine Peaches. This Sterility is caused by the too great Abundance of Wood, which, when 'tis cover'd over with its beautiful Blossoms, requires a much greater Quantity of Nourishment than the Roots are at that Time able to communicate, and thereby, for want of proper Nourishment, the Embryo Fruits are starved, and more especially when the Soil and Spring are both dry, their Perspirations being then greatest; and if Easterly Winds happen to blow at that Time, their very drying exhaling Nature, is a further Help to the Destruction of the Fruit.

BUT notwithstanding that the old *Newington* Peach is always vastly full of Blossoms, as may be seen by *Fig. IX. Plate II and III.* yet if they are nail'd in at the Length of their Leaves, their Roots will be able to strongly support them, (as I have experienc'd) and produce plentiful Crops: for by observing this Distance, the Roots will not have one third Part of the Wood to support, as when nail'd in thick, after the common Way.

THERE are some Kind of Peaches which Nature has been more kind to than others; as in this very Case; the *Albemarle* and *Catherine* Peaches produce Leaves with their Blossoms, (see *Fig. VI and VIII. Plate II and III.*) which strongly attract Nourishment from the Roots to the Blossoms, which the old *Newington* does not, it having Blossoms only; which may in some Degree be the Cause of its producing but small Quantities of Fruit: but this may be greatly help'd in Pruning, as I shall in its Place demonstrate.

R U L E V.

THE nearer Branches are laid to an horizontal Position, the Velocity of the Sap is the more retarded, and the nearer to a perpendicular Position, the more freer; therefore Branches that are inclinable to Luxuriancy, may be check'd by being nail'd horizontally; and those that are weak, help'd by being nail'd perpendicularly.

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NOW these Extremes being only fit for the two aforefaid Kinds of Wood, we muſt therefore make Choice of a mean Situation, for our beſt and moſt healthy fruitful Branches ; and therefore they ſhould be ſo laid, as to make an Angle of 45 Degrees, or thereabouts, with the Horizon.

R U L E VI.

FRESH nail all Branches every Year, that they may have a free Dilatation.

THE next material Matter to be conſider'd, is the beſt Time of the Year for Pruning, which, among all our famous Gardeners, is left undetermin'd, every one aſſigning his own Season, but not one of them has yet given a ſingle Reaſon for it.

FIRST then, that we may be certain of laying the Branches at their proper Diſtances, we ſhould prune our Trees in the End of *Auguſt*, and Beginning of *September*, before their Leaves are fallen, which will then exhibit to us the juſt Diſtances ; which cannot be ſo exact, if we prune them in the Winter Season, as is uſual.

SECONDLY, Branches being prun'd in this Season, juſt before their Growths are at an End, and the Air kind and warm, Nature will immediately cloſe up, and heal the Orifices of the Sap-Veſſels, before the Wet and Cold of the Winter comes on, which they imbibe to their Prejudice, when prun'd in that Season.

THIS I have oftentimes experienc'd, and therefore recommend it to the Curious : But when you prune off the End of a Shoot, you muſt always take it for a Rule to cut an Inch at leaſt above the Bud, (which muſt always be a Leaf, and not a Bloſſom-Bud, as I ſhall hereafter demonſtrate) which, after periſhing down to the Bud for want of Nouriſhment, becomes ſo very hard, as to protect the whole Branch from the Injuries of Wet and Cold.

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THIRDLY,

THIRDLY, When Fruit-Trees are pruned in the End of Autumn, their Roots have not so great a Quantity of Wood to support thro'out the Winter, as when prun'd in the Spring, and consequently are better able to support their Blossoms in the Spring. And again, the lesser the Quantity of Wood is on a Tree thro'out the Winter, the less crude Sap is imbibed, and consequently the Tree is much more perfect, and in better Health.

FOURTHLY, When Branches are prun'd early in the Winter, and the Orifices of their Sap-Vessels firmly closed, the attracting Force of the Leaves in the Spring, is not weaken'd, by the many Inlets of fresh Wounds, which must happen when Trees are prun'd late in *February* and *March*.

HENCE arises the Reason why luxuriant Trees, prun'd late in the Spring, are thereby check'd in their Growth : For the Sap-Vessels being open by the several Wounds at the Ends of their Shoots, the attractive Power of the Leaves cannot strongly attract Nourishment, until those many Inlets or Sap-Vessels are closed ; and therefore 'tis that the Luxuriance is in some Degree abated.

NOW from this 'tis evident, that the best Season for Pruning luxuriant Trees, is late in the Spring ; and those that are weak, or in a healthy State, early in the Winter ; or rather, as before is said, in the End of the Autumn.

THE several Rules here deliver'd being well observ'd, we need never fail of having good Wood in all our several Kinds of Fruits-Trees : And the only Thing that is now wanting to compleat this Part of Pruning in general, is the Reasons and Manner of Pruning the Ends of Branches.

THE Reason why the Ends of the Branches of some Sorts of Fruits are cut short at the Time of Pruning, is, because the extreme Parts thereof being produc'd in the latter Part of the Year, when the Sap was declining in its Strength, they are not so perfect and mature, as those Parts of the Shoots which were first produc'd, and therefore the immature Parts should be cut away.

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NOW to determine what Quantity of a Shoot should be cut away, is very difficult, because different Seasons have different Effects on their Growths, and therefore this Point must be wholly submitted to the Judgment of the Pruner ; and 'tis therefore that we must be sure to prune at a Leaf-Bud, and for want thereof, nail in the Branches at their full Lengths.

YOUNG Trees that are truly healthy require the least Reduction, and very often may be nail'd in at full Length, especially when all their Buds are disposed for Blossom, as Peaches, Apricots, and Morella Cherries are very apt to do : And there are some Sorts of Pears, which produce the most of their Fruits at the extreme Parts of their Shoots, and therefore must not be topp'd, because you not only cut away Part of the Fruits, but the leading Bud of the Shoot also, for want of which the Shoot dies as soon as the Fruits thereon are ripen'd.





C H A P. XII.

*Of the great Use of the Leaves of FRUIT-TREES,
and their Force of imbibing Moisture for the Support
of their Blossoms, Fruits, &c.*



It is very plain, from the several accurate Experiments of the Reverend Mr. *Hales*, that the Leaves of Fruit-Trees are very serviceable in attracting Nourishment from the lower *Strata's*, within the Reach of the tender Fruits, which, like young Animals, is furnish'd with proper Instruments to imbibe thence. And by the same Experiments 'tis manifested, That the main excretory Ducts of Plants, are in their Leaves, which separate and carry off the redundant watery Fluid, which, when detain'd, turns rancid and prejudicial : So that from thence we are taught the Necessity of preserving them, since 'tis impossible they can live without.

AND altho' Fruit-Trees, which are Inanimate, have not a Power with alternate Dilatations and Contractions, to drive forcibly about their Sap in its Vessels, as the Blood of Animals is thro' their Arteries and Veins ; yet has Nature wisely contrived other Methods, which most powerfully attract and keep it in Motion, whereby the same Purport is answer'd.

AND that nothing may be imbibed by the Roots of Trees, but what may be discharged by Perspiration ; therefore Nature has wisely cover'd their Roots with a very fine thick Strainer, which will not admit any Kind of Moisture to enter, but what can be readily carried away by Perspiration.

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THE seventh curious Experiment of Mr. *Hales's Vegetable Staticks*, p. 28. on the Dwarf-Pear Tree, and Branches of Apple, Pear, Cherry, and Apricot Trees, are undeniable Proofs of the great Uses of Leaves to Fruits, which I desire every Gardener to well consider, and be not too much puffed up with their own Conceits.

THE first Part of this Experiment was made on a Dwarf-Pear Tree, taken up in *August*, whose Weight (clear from Earth) was 71 Pounds one half; and its Roots being set in a known Quantity of Water, imbibed 15 Pounds thereof in 10 Hours, and perspired at the very same Time, 15 Pounds one half; therefore it perspired eight Ounces more than it imbibed. This seems to inform us that Pear-Trees delight in Moisture, and that those who imagin'd that all the Moisture imbibed by Trees, was wholly converted into Sap, and the Formation of Buds, Branches, &c. are entirely mistaken; for if 'twas so, the Pear-Tree would have retain'd the whole Quantity imbibed, which it did not do.

THE other Part of this Experiment, on the several Branches which this curious Gentleman made, is a further Proof, that the Quantity of Moisture attracted, is always in Proportion to the Quantity of Leaves.

AS for Example :

HAVING made Choice of two Branches of every Kind of Fruit, he stripp'd the Leaves off one Branch of each Sort, and then set their Stems in separate Glasses, wherein were known Quantities of Water.

THE Branches with Leaves imbibed large Quantities of Water, as some 15, 20, 25, and 30 Ounces, in 12 Hours Day, according to the Quantity of Leaves on each; and being weigh'd in the Evening, were lighter than in the Morning.

WHILE the others that were stripp'd of their Leaves, had imbibed but very little, as an Ounce, &c. each, were heavier in the Evening, they having perspired little.

NOW

NOW from these Experiments 'tis plain, that those Gardeners who pull off great Quantities of Leaves from Fruits, before they are fully grown, injure them very much, not only by letting in a sudden Heat, which shrinks the tender Sap-Vessels of the Fruits; but being of themselves unable to attract the same Nourishment which they before receiv'd, do therefore instantly perish.

IN *August* 1727. I made Choice of several Branches of the White Muscadine Grape, whereon were many very fine Bunches; I entirely stripp'd off their Leaves, and left some of them wholly exposed to the Sun and Air, whilst others, tho' stripp'd as aforesaid, were shaded by the Leaves of other Branches, which I laid before them for that Purpose.

THOSE Branches that were shaded continu'd at a Stand, for the Space of 10 or 12 Days, and then decay'd very fast; but the others that were fully expos'd, began to shrivel the third Day. Hence it appears, That the Leaves of Fruit-Trees, do not only preserve the Fruits from the Injuries of Heat and Cold, but strongly attract Nourishment to their Support, and perspire away the Crudities thereof, thro'out their several Stages and Degrees of Growth.

IF we observe the great Care that Nature has taken to place the Leaves of all Kinds of Herbs, Plants, and Trees, exactly under their Buds, to attract Nourishment to them, we may easily conceive the Prejudice it is to them when they are taken away.

IF we observe the Growth of Fruit-Trees at their first shooting out in the Spring, we may, with abundance of Pleasure, see the wise Order that Nature observes in all her wonderful Productions.

NOW seeing that Fruits cannot perspire and flourish without the Assistance of Leaves; therefore Nature does wisely produce them in all Fruits, either before their Blossoms appear, at the same Time, or soon afterwards.

THE *May Duke-Cherry*, *March* 26. (*Fig. I. Plate V.*) produces its Blossoms from the two Years Wood, and more particularly at and
about

about the Joint between the two Years Growths, as at B, than in any other Parts : And during the while that Nature is opening the Blossom-Buds, those of the last Year's shoot are largely expanding themselves into Leaves, (as *a a a*, &c.) which strongly attract Nourishment for the Support of the yet Embryo Fruits, and perspire away the Crudities with which the Sap then abounds.

APPLES produce their Blossoms on Wood of two Year's Growth, but their first Leaves are not produc'd by the last Year's Shoots, as in the Cherries preceding. The first Leaves of Apples are produc'd at the Blossom-Buds, and are very largely grown before the Blossoms appear, or even before the Buds of the last Year's Shoots are open'd.

THE Branch of a *Nonpareil* (*Fig. III. Plate VI.*) exhibits the Growth of the Leaves at the Blossom-Buds D D, &c. *March 26.* which are greatly expanded, whilst those of the last Year's Shoots, *a a*, &c. are not visibly beginning to shoot. But when their Blossoms are fully blown, (as *Fig. I. Plate VII.* and *Fig. V. Plate XII and XIII.*) then the Buds of the last Year's Shoots are much expanded ; probably, because that the Blossoms being then produc'd, require a greater Attraction of Moisture for their Nourishment than before.

GRAPES are produc'd on Branches that shoot from the Buds of the last Year's Shoots, which are of a considerable Length, with their Leaves expanded, before the Fruits appear, as exhibited by the Branch of a White Muscadine Grape, (*Fig. II. Plate VIII and IX. April 10.*) and by the first of *May*, the Time that their Bunches appear, their Shoots are very much extended, and their Leaves increased in Magnitude. (See *Fig. II. Plate X.*)

FIGS are something different from other Fruits in their Manner of Production, and therefore Nature has wisely placed a leading Bud at the End of every Shoot, (as A, *Fig. I. Plate IX.*) which opens its Leaves about *April 12.* and strongly attracts Nourishment to the Fruits B C D E ; and therefore when Gardeners unskillfully prune off the Ends of the Shoots in the Winter or Spring, those Branches generally die soon after.

QUINCES

QUINCES produce very large Leaves before their Blossoms appear on the last Year's Wood, (see *Fig. I. Plate VI.*) which seems to be provided by Nature, on Purpose to perspire away the vast Quantity of Crudities that are contain'd in their Sap, which, when confin'd, has the ill Consequences before demonstrated.

PEARS produce both Leaves and Blossoms from the same Buds, and being Fruits which imbibe great Quantities of Moisture, must therefore have Leaves timely produc'd, to attract Nourishment for the Support of their Embryo Fruits, as well as for Perspiration. (See *Fig. I, II, III, IV, V. Plate II and III.*)

PEACHES, Plumbs, and Apricots, produce their Blossoms some small Time before their Leaves, which soon succeed, when their Branches are prun'd at Leaf-Buds, or for want thereof, left at their whole Lengths, (as *Fig. III, IV, V, VI, VII. Plate VIII and IX.*) where the leading Buds A A &c. are opening their expanding Leaves, for the Purposes aforesaid.

BUT by the Time that their Blossoms are shed, their Leaves are largely grown, probably, because that as their Fruits are then knit, or set for Growth, they require a greater Attraction of Nourishment for their Support, as well as Shade, to preserve their tender Sap-Vessels from the Injuries of Heat and Cold. (See *Fig. I, and II. Plate XI. and Fig. II. Plate VII. of the Nonpareil Apple.*)

THE same is to be observ'd in *Cherries*, when in Blossom, whose Leaves are then greatly increased, (as *Fig. I, II, III, IV. Plate XII and XIII.*) But much greater as the Fruits advance in Growth, (see *Fig. II. Plate VI. of the Morella Cherry, May 17. Fig. I, II. Plate XIV. of the Apricots,* whose Leaves are largely grown in Proportion to the Fruits.

AND therefore it appears, That as Fruits advance in their Growths, and require greater and greater Nourishments; so are their Leaves proportionably augmented, whereby they are always able to attract sufficient Juices for their Support, as well as to perspire away the Crudities thereof.



C H A P. XIII.

Of Blights, and the Manner of Ordering FRUIT-TREES, when in and going out of Blossom, Half-grown, and Ripe.



ALTHO' 'tis absolutely necessary that the Pruner should judiciously prune and nail his Trees, yet if he has not regard to them afterwards, 'tis ten to one if he receives any Fruits from them.

THE Accidents that Fruit-Trees are liable to when in Blossom, are Blights, Exhalations, and being destroy'd by Insects : But these in general are vulgarly called Blights.

BLIGHTS, are Frosts, and burning Heats, as Lightnings, &c. Exhalations, are cold drying Winds, and very dry hot Weather; and Insects, are such as Caterpillars, Flies, &c. which in general destroy Fruits, if not guarded against.

FIRST, Frosts are of two Kinds, the one which is very cold and dry, called the Black Frost; and the other cold and hoary, (which is the Dew frozen, that falls in the first Part of the Night, before the Cold began to freeze) called a White Frost.

BOTH these Kinds of Frosts are prejudicial to Fruits, at all Times when they happen; but of the two the Black Frost is the most destructive, and especially when it comes after a Shower of Rain in an Evening, before the Blossoms and Fruits are dry.

THERE

THERE are divers Methods, prescrib'd by several Persons, for preserving Fruits from Frosts, which I have experienc'd, and find that there is none comes up to careful Covering with Mats, old Sail-Cloths, &c. which, being well fastned that turbulent Winds cannot displace them, never fail of our desired Success. Nay, Pease-halm only, hung on the Branches, and secur'd from Winds, has the same Effect, being left on until they are largely grown, and then taken away by Degrees.

AND if it happen that the Weather continues freezing in the Day-time, let the Covering continue, even for three or four Days; and then, in the Midst of the Day, if the Weather is any thing agreeable, open them for three or four Hours, and then cover them up as before. But when the Weather don't freeze in the Day-time, then open them about an Hour after Sun-rising, and cover them up about the same Time before it sets.

IF the Season proves dry, and the Easterly Winds blow very fresh, 'tis absolutely necessary to water the Blossoms of your Fruit-Trees; for those Winds being of a very exhaling Nature, exhale away the Moisture from the young Fruits, with greater Force than their Roots are able to communicate it, the Heat of the Season being insufficient to rarify the Sap thin enough for a Succession; and thereby the Fruits are starved for want of proper Nourishment.

BUT these Waterings must be carefully performed, that the Water may not fall on the Blossoms with such Force as to bruise or beat them from the Branches: Therefore if with a Hand-Engine the Water be first forced into the Air, it will be there separated, and fall down like Rain. The best Time for this Work, is the Morning about Ten or Eleven, because, being water'd early, they will be dry again before the Evening comes on; which, if it happens to prove inclinable to Frost, will not have such an ill Effect on them, as when wet.

THE several Kinds of Insects which are seen to destroy the Leaves of Fruits, may very reasonably come with the Eastern Winds; or the Eastern Winds may hatch their Eggs, &c. as Mr. *Bradley* and others imagine. But I could never yet find that any Method would destroy,
or

or keep them from Fruit-Trees, but frequent Waterings, which never yet have been known to fail.

'TIS observable that these Insects never come in great Plenty, but when the Spring is very dry ; and even then when the Weather changes to Rain, and becomes very wet, they instantly perish.

THEREFORE since Nature has taught us a sure Method of destroying those Vermine, we have nothing more to do than to keep our Fruit-Trees in a continual supple State, by early and frequent Waterings in dry Seasons, when those Insects mostly rage. But it is absolutely necessary to begin these Waterings before the Leaves are infested by them, since it is a Refreshment, and the Trouble very inconsiderable.

I AM not insensible that many Gardeners will condemn these Practices, because the small Trouble of Coverings, Openings, and Waterings, may perhaps be more than they care for : but however, since that after a great Expence and long Time waiting, we are desirous of reaping the Fruits of our Labours, we should never be short of laying absolute Command on the Gardener, since the Success is very precarious without, and the Trouble very little, as before observ'd.

BUT to return from this Digression. It appears by what is before said of the exhaling Nature of the Eastern Winds, that the Fruit-Trees of Soils which are of very moist strong Natures, can better dispense with those great Exhalations, than those growing in Soils that are naturally hot and dry ; for the moist Lands can more strongly support the young Fruits with Moisture, than those that are less furnish'd therewith. But this does only happen when the Spring proves dry, because when there are Rains sufficient to support the Perspiration of Plants in light dry Soils, then the Moisture in moist strong Lands is in too great a Quantity, and the Trees being saturated and clogg'd therewith, for want of sufficient Heat to exhale and perspire it away, become immature and barren, by the over-and-above Crudities contain'd therein.

NOW from hence 'tis very probable, that *Kent*, whose Soil is naturally very moist, produces greater Crops of Cherries in dry Summers, than in wet ones : & *contra*.

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THE Gardens about *Twickenham, Isleworth, &c.* in *Middlesex*, whose Soils are naturally drier than those of *Kent*, have the best Crops in wet Summers.

ORCHARDS growing on the South Sides of Rivers, imbibe great Quantities of Moisture at their Blossoms and Leaves, as 'tis exhaled away by the Sun ; for the Trees being situate between the River and the Sun, imbibes the humid Steams as they pass by them. But this never happens but in dry Seasons, because when Seasons are very wet, Fruit-Trees imbibe very little, or scarcely any, being nearly saturate with the Moisture of the Season.

THUS much for Frosts, Easterly Winds and Insects. Now we will return to our Fruits, which we suppose to have plenty of, and which will always happen, if we are careful to supply the Blossoms and Leaves thereof, with such Refreshings of Water as the Soil and Seasons require.

OUR Fruits being plentifully set, we must be very watchful and diligent in covering them from Frosts, when any seem to offer ; and therefore the best Method is to keep the Covering rowl'd up, on or near the Top of the Wall, in readiness to let down as Occasion may require. I had Apricots above one third grown, and well cover'd with Leaves, kill'd in great Quantities in the Beginning of *May* 1722. ; which, had I fortunately cover'd, would have been preserv'd, to my very great Advantage.

IF our Apricots and Peaches are very numerous, we must ease Nature of her Burden ; and therefore about the End of *April*, we may thin our Apricots, and in the first Week of *May* our Peaches, leaving them about two Inches apart, at the least. But Plumbs are seldom thinn'd, nor but a reasonable Subtraction must certainly improve the Remainders, which may be at the aforesaid Distance.

IT is observable that Peaches, Plumbs, Apricots, &c. grow very little from about the 20th Day of *May*, to the like Time in *June*, Nature
1 X being

being then wholly employ'd in preparing and perfecting their internal Parts, *viz.* their Kernels, Stones, &c. with proper Vessels fit for the Reception of future Nourishment, in such Quantity, and with such Force, as to strongly feed and dilate their exterior Coats or Pulps, until fully grown.

NOW whilst this great Operation of Nature is performing, 'tis always seen that great Quantity of Fruit drops, altho' largely grown. Of this all our late Authors on Gardening take Notice, and therefore advise, that the thinning of Fruits be omitted, until it appears that this great Fall is over ; but not one of them has yet attempted to deliver Rules for their Preservation.

THE meanest Capacity living may very easily believe, that if all the Fruits on a Tree were in perfect Health, it would be impossible for them to fall in a shrivel'd decay'd Condition, as they are observ'd to do ; and therefore 'tis evident, that their Fall is caused by some Decay or Weakness of Nature ; which last of the two seems the most probable.

FOR since that Nature requires Moisture, for daily Perspirations, as well as to incorporate the watery supple Substances of the Kernels, Stones, &c. 'tis very easy to conceive, that if very dry Weather exhales away that Moisture which is necessary for those Formations, the Work will be imperfect, and consequently the Fruits must perish.

THE first Idea of this wonderful Work of Nature, was communicated to me by the Honourable Mr. *Bruce*, who at the same Time inform'd me of several Experiments which he had made for their Preservation, and found that the most successful one, was, To preserve them from the very hot Sun, from ten in the Morning until two or three in the Afternoon ; which he did with the same Coverings of Sail-Cloth, that were used in the Spring, to preserve their Blossoms from Frosts, &c. This I have also experienc'd with great Success, and do therefore recommend it to the Practice of the Diligent and Curious ; for tho' the Labour is little, yet the Recompence is vastly great.

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N. B. 'TIS very serviceable to give the Trees a gentle Refreshing of Water, at the Time you begin to screen them from the Sun, which they will freely imbibe, and very much strengthens Nature in her Productions.

ABOUT the 20th of *June* this Work is over, and as then the Fruits are beginning to swell away for ripening, we should now thin them for good, taking away the least promising ones, and preserving the best.

THE Masculine Apricot should be left at or about the Distances that B C, *Fig. IV. Plate XV.* are, which is two Inches and a quarter; but the *Turkey* Apricots must have a larger Distance, as being a larger Fruit, and therefore we must allow them three Inches, as the Distance A B; and the *Roman* Apricot, whose Magnitude is a Mean between the two other Extremes, should be left at about two Inches and three quarters.

AND as *Apricots* differ in their Magnitudes, and therefore require more or less Room for Perspiration; so do *Peaches* likewise: the small Kinds may be left at two Inches apart; those of a middling Growth at four Inches; and our very best and largest not nearer than six Inches.

SOME Kind of Pears, as the *Green-Chizel*, *Summer-Bergamot*, &c. are very apt to produce their Fruits in Clusters; but they are much the best when each Cluster is reduced to two Pears only, excepting when the Clusters are very thinly distributed on the Tree; and at such Times they may be left in greater Number, as three, four, &c. according to their Distance, and Strength of the Tree.

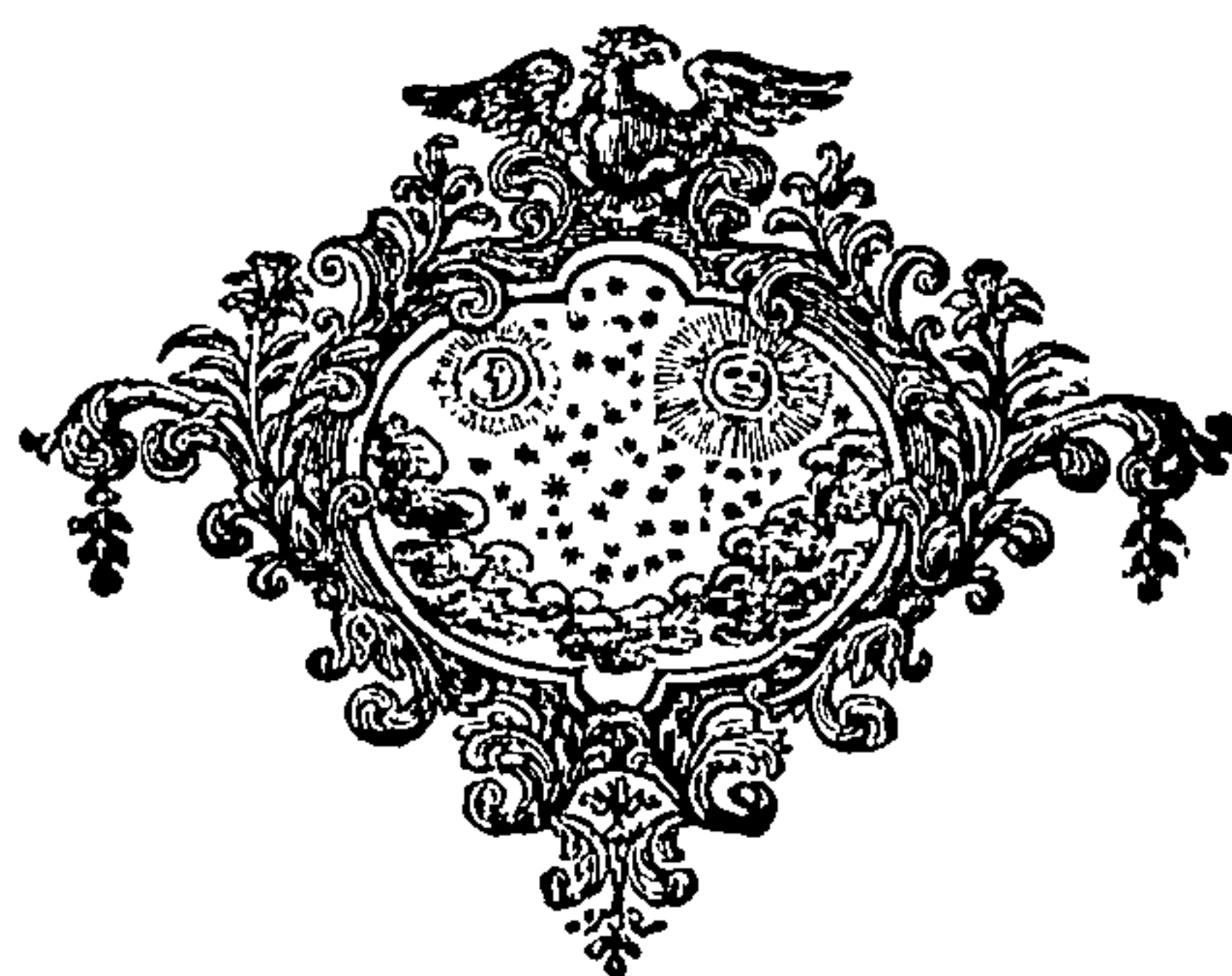
BUT where there is a full Crop, 'tis best to leave them single, or double at most.

BY the several Proofs of the preceding Chapter, 'tis plain that the Leaves of Fruit-Trees are vastly serviceable in drawing up Nourishment

rishment to Fruits as they advance in Growth, as well as keeping them in a supple ductile State, by defending them from the Sun, and drying Winds, which contract and harden their Fibres, or Sap-Vessels, and thereby spoil their Growth.

BUT when Fruits are almost fully grown, a little more Sun is necessary, to ripen their Juices, and give them their beautiful Colours; and therefore we must then by Degrees let in the genial Heat of the Sun, which will ripen them in the greatest Perfection that the Season is capable to produce.

N. B. *THAT 'tis better to tie back the Leaves with Bafs-mat, which are before the Fruits, than to cut them away; but if Time will not allow it, be sure to preserve those at the End of the Shoots, that their necessary Attractions and Perspirations may not be retarded, and thereby the Fruits render'd insipid by the Crudities contain'd in them, that should have been perspir'd away at their excretory Ducts.*





C H A P. XIV.

Of the Manner of gathering FRUITS, and Preserving them after Gathering.

NOTWITHSTANDING that we have strictly follow'd all the preceding Directions, and got great Quantities of fine Fruits, yet if we don't know when to gather them, 'tis very probable that we may'nt have any worth our Eating ; for when Fruits are gather'd before they are ripe, their Juices are crude, and being not fully grown, they immediately shrivel, and become rough. And on the other Hand, when Fruits hang on the Trees a longer Time than their Juices are ripen'd, their Juices are immediately perspired or exhaled away, and the Fruits grow mealy and dry.

CHEERRIES are fit to be gather'd when they are become a very deep black ; and indeed, if they have a free drying Air, cannot be too much ripen'd. They are best being eaten from the Trees, after a Shower of Rain ; but most commonly out of Spring Water after Dinner. The best Time to gather them is the Morning, when the Crudities of the Dew are evaporated, before the Heat of the Day comes on.

APRICOTS, viz. the *Masculine*, *Roman*, *Turkey*, and *Bruxels*, are variously eaten ; some delighting to eat them when crisp, others when mellow, or a little soft, but not mealy ; which last, in my humble Opinion, is the best, because that then all the Juices are in their utmost Perfection, which in the others are crude and immature.

SOME delight to eat them from the Tree, and indeed the *Bruxel* is best when so eaten ; others not until the next Day after gathering, which

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of

of the two seems to be the best, being gather'd in the Cool of the Evening, and laid singly on dry Vine Leaves.

PLUMBS, being next in Order, should hang on the Trees until they will fall by an easy Touch of the Finger ; but when they drop off themselves, they are generally too ripe, and their Tastes become insipid.

BUT there are some Sorts of Plumbs which should remain on the Trees until they begin to shrivel, and those are the *Queen-Mother*, *Drab-dor*, and *Imparatrice*, which are then equal to any Fruit whatsoever.

PLUMBS should be gather'd in the Morning, when the Dew is off, before the Heat comes on ; and as they in general have a beautiful Flew on their Surfaces, we should gather them with a single Finger and Thumb only, laying them in Nettles, when we intend to keep them a Day or two after gathering.

FIGS are fit to gather when Drops appear in their Eyes, or when they become very soft and shrivel'd about their Stalks, so as to hang almost pendant. In short, if Figs have a free drying Air, they cannot be too ripe in our Climate. When you gather Figs, lay them on their Sides, on dry Vine Leaves ; and in like Manner when serv'd up for the Table.

PEACHES should be gather'd when they part from the Tree by a gentle Touch, and are best a Day or two after being gather'd. They must be laid singly on Vine Leaves, on their Stalk-End or Bottoms, because when they are laid on their Sides, they instantly grow rotten.

GRAPES cannot be too well ripen'd, and therefore the longer they hang, so that they are not shrivel'd or mouldy, the better. All White Grapes are generally ripe when they are transparent, and ting'd with a faint Amber Colour next the Sun.

TO preserve Grapes a long while after ripe ; 'tis usual to tie up every Bunch in Paper Bags, dipped in sweet Oil, just before they are fully ripen'd ; others gather them at that Time, and sealing up their Ends
with

with Wax, hang them singly in a warm Room, which will preserve them a long while : But the very best Method that I could ever discover, was to gather them when nearly ripe, in a very dry Day, closing up the Orifices of their Stalks with Wax ; and then after having hung about the Space of one Day, to perspire away what Crudities they had in their Juices, I put each Bunch in a glazed Earthen Vessel, in such Manner as to hang within Side, without touching any Part thereof ; and having before prepar'd a sufficient Quantity of Sand well dried, I fill'd up each Pot therewith ; and then with wooden Covers to their Tops, seal'd them down, so as to let no Air or Moisture in. Then placing my Pots in a warm Cellar, I kept them till my Occasion requir'd me to use the Fruits, which was about three Months after their natural Season. And 'tis my real Opinion, that not only these Sorts of Fruits, but Peaches, Apricots, Plumbs, &c. may, by the same Method, be kept many Months beyond their common Time.

WHEN I pour'd away the Sand from the Bunches, I dipped them in clean Water, made Milk-warm, which washed off the Grit of the Sand, and caused a Kind of a Flew to succeed.

SUMMER-Pears (like most other Summer Fruits) are in greatest Perfection when they fall from the Tree by a gentle Touch ; but those that fall of themselves are generally mealy.

AND some Autumn Fruits are to be eaten in like manner, which will not keep a long while after gathering, and such are the *Burees*, *Monsieur John*, &c.

BOTH Autumn and Winter Fruits must not be gather'd until you see them begin to drop off themselves, for then you may assure yourself that Nature has perform'd her Part. 'Tis very prudent to lay clean Wheat Straw under our Wall-Trees ; and indeed Espaliers, Dwarfs, and Standards also, where the Kinds are good, to preserve the first perfect Fruits from being bruised.

AND be sure that you gather in your Winter Fruits before the Frosts come on, and that they are perfectly dry, and free from Bruises. The best Method of sorting Fruits, is at gathering, taking the best first, then
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the next best, and lastly the small ones. This Method preserves them from those Bruises, which cannot be avoided, when the several Sizes of Fruits are gather'd together, and afterwards tumbled about in sorting.

THE closer that Autumn and Winter Fruits are kept from the Air, and the less disturb'd in keeping, the longer and better they will keep, being warm and free from Vermine, which we must carefully guard against ; the first by keeping the Windows close, and covering thick with sweet Wheat Straw ; and the latter with Traps, Cats, &c.

THE several Kinds of Fruits which follow in the ensuing Chapters, are in general of the best Sorts : And altho' I have placed to every Fruit, the Day on which 'twas ripe this Year 1727. yet it is not to be expected that every Year hereafter will produce them at the same Time. I have already proved that the different Nature of Soils alters the Goodness of Fruits, and therefore the same is to be understood in the Seasons of Ripening and Duration : For as those Fruits which grow on the Tops of Trees are sooner ripe than the others nearer to the Roots, they having less Nourishment communicated to them ; so are Fruits much forwarder in dry, sandy, gravelly Soils, which have much less Plenty of Moisture, than Lands that are more plentifully stored therewith. For tho' Moisture promotes Growth, yet it retards the Maturity of Fruits ; and 'tis therefore that the Opening of the Roots of Fruit-Trees in moist Lands, causes their Fruits to be considerably forwarder.


AND since that the different Natures of Soils cause Fruits to ripen sooner in one Place than another, 'tis therefore that some Peoples Winter Fruits, as Pears, &c. are ripe and gone before their Neighbours are scarcely eatable.





C H A P. XV.

Of C H E R R I E S.

 *CHERRIES* produce their Fruits, either on the lateral Snags of the two and three, &c. Years Wood, or on the last Year's Wood only, as the early *May*, and *Morella Cherries*, and therefore their yearly Shoots should not be topp'd or prun'd : For by *Fig. II. Plate XVI.* which is the last Year's Shoot of the *Morella Cherry*, it appears that most of the Fruits are produced at the End of the Shoot which would have been cut away, had that Shoot been prun'd at the End, as is usual.

THE Nature of these Sorts of Cherries is such, that that Wood which produces Fruit this Year, is always barren after, excepting now-and-then some few Fiddes or Spurs, such as *d d*, (*Fig. III. Plate IV.*) where *A B* is Part of the last Year's Shoots, with its Buds swelling for Blossom, and *B C* the barren Wood of two Year's old.

NOW seeing that the yearly Shoots become barren after once bearing, we are thereby taught the Necessity of preserving new Wood every Year, in all the Parts of our Trees, for a Succession : For when this Care is not taken, our Trees produce their Fruits in their extreme Parts only, and their interior Parts are wholly barren.

THE *Morella Cherry*, when well ripen'd, is an excellent Fruit for the Table, as well as for Preserving, and is a very great Bearer.

THE early small *May-Cherry*, (*Fig. II. Plate XVII.*) produces its Fruits in the same Manner as the preceding, and therefore we must in the like Manner preserve the yearly Shoots to succeed those which produce Fruits the same Year : But sometimes the Wood of two Years old, produces Fiddes or Spurs, which bring good Fruits, (as *d d d*, &c. *Fig. V. Plate IV.*) the two Years Wood of the *May-Cherry*.

THE yearly Shoots of this Cherry have their Buds very nearly set together, as *d d d*, &c. represented in *Fig. IV.* of the same Plate, and therefore produce great Quantities of Fruits.

THE *Holmans-Duke*, (*Fig. I. Plate XVII.*) is an excellent Fruit, and great Bearer, as may be seen by the Blossom-Buds *d d d*, &c. (*Fig. III. Plate IV.*) which are situate on the two Years Wood B C, near to whence the last Year's Shoot A B was produced. The Buds *b b b*, &c. are Leaf-Buds, which prepare themselves in the first Year after they are produc'd, to bear Fruits in the second : And the like of the *White* and *Black Heart*, (*Fig. IV, V. Plate XVIII.*) whose several Branches and Buds are in the same Manner exhibited in *Plate IV. Fig. I and II.*

THE *Carnation-Cherry*, (*Fig. III. Plate XVI.*) in good Land, is an excellent fine large firm pulped Fruit, comes late, and is better from a Standard than against a Wall. If 'tis well order'd it produces a good Crop, for it naturally produces much Blossom, as may be seen by the Buds *Fig. II and IV. Plate V.* where the Blossom Buds *d d d*, &c. *Fig. IV.* are but preparing themselves for opening : But those of *Fig. II. b b b*, &c. are greatly expanded, even almost into Blossom.

THE *Corone*, *Gascoigne*, and *Bleeding-Heart-Cherries*, being produc'd on Fiddes or Spurs of the two Years Wood, need no further Explanation.

THERE are many other Kinds of Cherries that are very good, as the *Lukeward*, *Morisco*, &c. which I could not procure this Season, and therefore omit their Descriptions until I can gratify the Curious with their true Representations and Qualities.

N. B. *THAT*

*

N. B. *THAT* the Leaves of the several Fruits represented in this Work, are exactly after Nature itself, being the real Impressions printed from the Back of every Leaf, when they were first taken from their respective Trees.

THE several Fruits are also as accurately delineated, which I perform'd, by cutting them exactly thro' from their Vertexes, perpendicularly to their Bases; and then laying their Sections on Paper, I truly traced their Out-lines, by the extreme Parts of their Sections, and afterwards shadow'd them as herein exhibited; so that I can justly say, they are a perfect and exact Geometrical Representation of Nature.



C H A P.



C H A P. XVI.

Of A P R I C O T S.



PRICOTS, or *Abricots*, in general, produce Fruits on the last Year's Shoots, and therefore we must always take care to preserve young Wood for a Succession, that when we are oblig'd to cut out that which is barren, we may supply the Stead with that as is fruitful. But all the Fruits are not produc'd on the extreme, or last Year's Shoots, because the Wood of two Years old does generally produce small fruitful Branches, as *b b d*, *Fig. I.* and *m n b o*, *Fig. II. Plate XIX.* which likewise produce good Fruits.

THE small lateral Branches are oftentimes nail'd in at full Length, as *c n b o*, *Fig. II.* but they produce better Fruits when they are pruned, as *b b*, *Fig. I.*

THE first ripe Apricots are produc'd at the Joint, between the first and second Year's Wood, (as at *B*, *Fig. III. Plate VIII and IX.*) where you see those Blossoms are fully blown, whilst the others above, at *c c c*, are not half so much expanded, because they receive lesser and later Nourishment from the Roots than those at *B* ; and in like manner those at *d d d*, less and later than those at *c c c* ; and therefore it is that we are furnish'd with several Crops, whereby they continue much longer, than were they to ripen all together at one Time : But 'tis always found that the first Crop is the best.

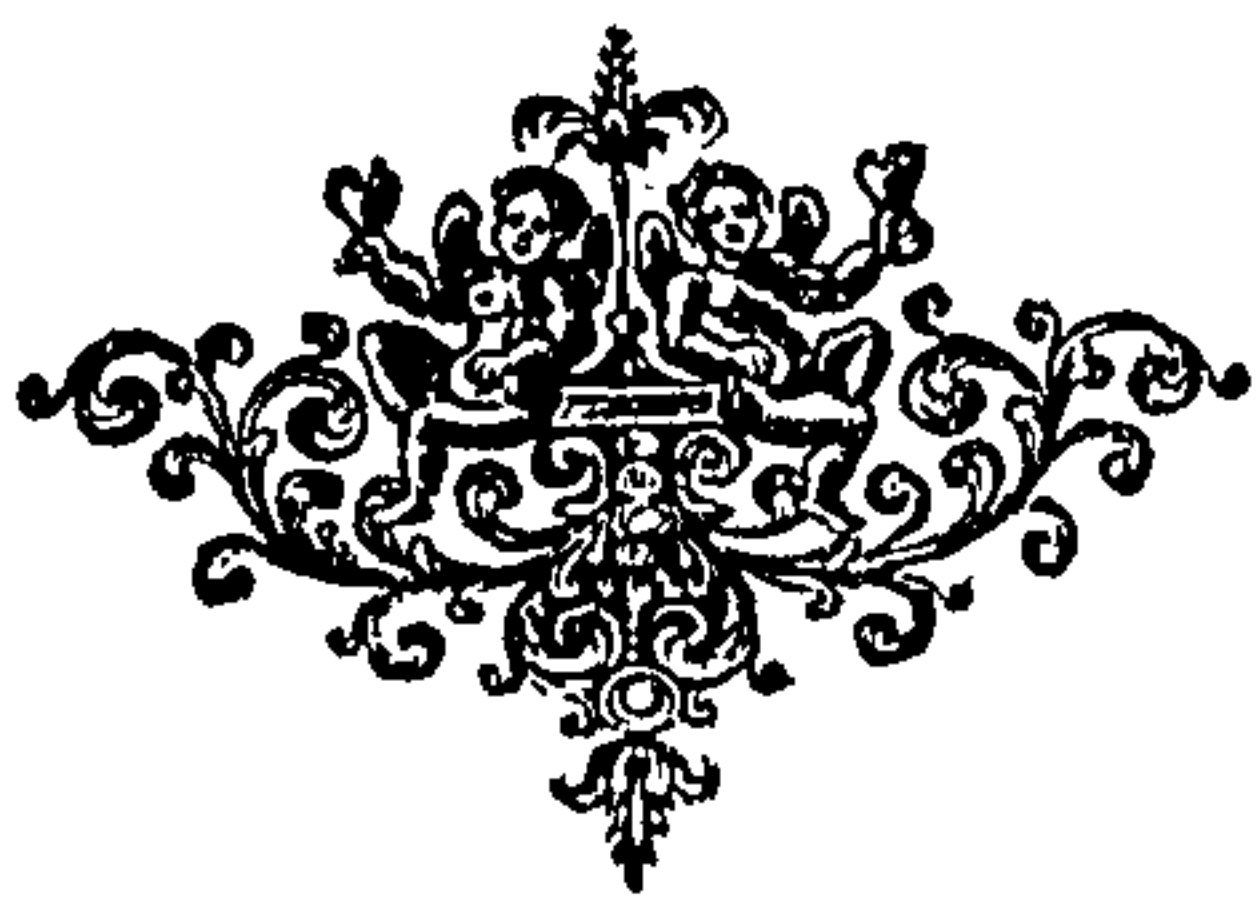
THE *Masculine Apricot*, (*Fig. I. Plate XV.*) is the first that is ripe ; and when 'tis discretionally thin'd, and timely gather'd, is worth the Notice of the most Curious ; but when they are suffer'd to grow in

in great Quantities, and gather'd before or after they are ripe, they are worth nothing.

THE next *Apricot* in Order of Ripening is the *Roman Apricot*, (Fig. BCDE, *Plate XV.*) which is a very great Bearer, and pleasant juicy Fruit, if gather'd before 'tis mealy. Next to this is the true *Orange Apricot*, which, of the two, is much the best Fruit. But the very best Sorts, are the *Turkey*, *Bruxels* or *Breda*, commonly called the *Brussels Apricot*.

THE *Turkey Apricot*, (Fig. II. *Plate XV.*) is an excellent, fine, beautiful, pleasant-tasted Fruit, but is generally a bad Bearer, when over-loaded with Branches, according to the common Method of nailing them. But on the contrary, when laid at the Length of their Leaves, as before directed, 'tis a Fruit that ripens about a Month after the others, and continues some Time.

THE *Bruxel Apricot*, (Fig. III.) is also ripe about this Time, and best on a Standard ; 'tis a very great Bearer, and the very best of all the several Kinds of Apricots, its Pulp being always firm, with a fine brisk high-flavour'd Juice. 'Tis best propagated on the *Muscle-Plumb Stock*, either by Grafting or Inoculation, and delights in a warm Soil and Situation.





C H A P. XVII.

Of P L U M B S.



LUMBS produce their Fruits on the last Year's Branches, as well as on small lateral Snubs, as *a a a*, &c. on the two Years Wood, *Fig. IV. Plate XIX.*

THE Blossom-Buds of *Plumbs*, as well as of *Peaches* and *Apricots*, are double, as *c c*, &c. and therefore easily distinguish'd from Leaf-Buds, which are single, as *b b*, &c. *Fig. III. Plate XIX.*

WHEN the last Year's Shoots have lateral Shoots, as *I H K*, *Fig. III. Plate XIX.* 'tis necessary to reduce them within an Inch, or an Inch and half of the grand Shoot, as at *i b k*; but those that are very short, as *n m H*, may be left unpruned.

THERE are a very great Variety of *Plumbs*, of which some are very good, and others very bad; which last' being unworthy of our Notice, I shall therefore only have regard to those that are valuable.

THE first ripe is the *Jean-bative*, *White Primordian* or *London Plumb*, (*Fig. I. Plate XX.*) which is of a fine clear yellow, with a white Flew, a great Bearer, and pleasant Juice, ripe *June 9, 1727*: But oftentimes when this Fruit is unskillfully pruned, as in *Fig. I. Plate XXI, XXII.* where the Shoots *A B* being prun'd at Blossom-Buds, and their Fruits thereby left destitute of Leaves which caused them, are seldom worth our Notice; for altho' they are within the Power of Attraction, and supplied with the Juices that are attracted up by the Branch *C D*, yet for want of Leaves they cannot so well perspire away the Crudities

of

of the Nourishment they imbibe, and are thereby render'd imperfect : Besides, being expos'd to the Sun and Air, their Sap-Vessels are thereby dried up, and consequently cannot receive Nourishment in so great a Quantity, as when in a supple ductile State.

THE *Red Primordian* (Fig. II. Plate XX.) differs very little from the preceding, except in Colour, which is a dark Red, cover'd with a Violet Flew, and the Manner of producing its Fruits, which are generally in Clusters, (as Fig. III. Plate XXI and XXII.) 'Tis a very pleasant-tasted Fruit when well ripen'd, and not too great a Number upon the Tree : It ripens about three Weeks after the *Jean-bative*, viz. June 1.

THE *Morocco Plumb*, (Fig. III. Plate XX.) is a fine Plumb, of very dark or blackish Blue, cover'd with a fine light Violet Flew, a good Bearer, and ripens about July 14, 1727. on an East-Wall.

THE *Orleans Plumb*, (Fig. IV. Plate XX.) tho' a common, yet a very valuable Plumb, as well for its fine firm juicy Pulp when well ripen'd, as its being a constant and plentiful Bearer. 'Tis of a pleasant reddish Blue, next the Sun, and a yellowish Green in its opposite Parts; the Pulp is a little yellow, and comes from the Stone.

N. B. *THEIR* common Magnitudes are generally as large as the prick'd Line A B, represented in Plate XX. Ripe July 10, 1727. South-West Wall.

THE *Fotheringham* or *Foderingham Plumb*, (Fig. VI. Plate XX.) also called the *Sheen Plumb*, in respect to its being a favourite Plumb to Sir *William Temple*, who liv'd at *Sheen* near *Richmond* in *Surry*; hath its Pulp very firm and crisp, full of an excellent rich Juice, and comes from the Stone. Next the Sun 'tis a dark but a pleasant Red, a little spotted, and cover'd with a very thin light Violet Flew.

ITS Skin is something hard, when Seasons are Wet and Cold; and at such Times 'tis very apt to open at its Blossom-End, before ripe : 'Tis an excellent Fruit against a South-East Wall, but very indifferent when a Standard or Espalier : Ripe July 14, 1727. South-East Wall.

THE

THE *Imperial*, (Fig. V. Plate XX.) or *Red Bonum Magnum*, is a beautiful but something coarse Plumb, when eaten raw ; and therefore 'tis oftner used for Baking, Preserving, &c. and is then much esteem'd, by the Curious : Ripe *July* 15. North-West Wall.

THE *Violet Plumb* (Fig. VII.) an old but valuable Plumb, either for the Table or Tarts : The Pulp is of a greenish Yellow, cover'd with a deep blue Skin, with a most pleasant Violet Flew ; 'tis a great Bearer, and worth the Notice of the most Curious : Ripe *July* 15, 1727. West Wall.

THE *Royal* (or Sir Charles Worsley's) *Plumb*, (Fig. VIII. Plate XX.) so called in respect to its very rich sugar'd juicy Pulp, which cleaves to the Stone, and is cover'd with a light Red about the Blossom-End, with faint red Specks from the same, ending in a yellowish Green : 'Tis best in warm moist Lands, being subject to rot upon the Tree before ripe in wet Lands, and loses very much of its fine, rich, acid Flavour. 'Tis a good Bearer, and may be justly plac'd in the first Rank of Plumbs : Ripe *July* 20, 1727. South-East Wall.

THE *Blue* or *Violet Perdrigon*, (Fig. IV. Plate XXIII.) is an excellent Plumb ; its Pulp richly sugar'd, and cover'd with a fine Violet Flew, something yellowish within : 'Tis a good Bearer, and one of the very best in *England* : Ripe *July* 20. West Wall.

THE *White Perdrigon* (Fig. V. Plate XXIII.) is a yellowish Plumb, sometimes spotted with reddish Spots, cover'd with a white Flew : Its Pulp is yellow within, very sweet, with a pleasant Acidity attending it, and comes from the Stone, but the Skin is often something bitterish. 'Tis a good Bearer : Ripe *August* 1. West Wall.

THE *Musk Perdrigon* (Fig. III. Plate XXIII.) is an excellent Plumb ; its Pulp comes from the Stone, very firm, full of a rich sugar'd Juice, cover'd with an almost black Skin, and fine Violet Flew : Ripe *July* 20. West Wall.

THE

THE *Cerney Perdrigon*, (*Fig. I. Plate XXIII.*) is a most beautiful Fruit, cover'd with a Crimson Red, and faint Pearl-colour'd Flew ; and when well ripen'd, its Juices are very agreeable, which otherwise are something harsh and acid : Ripe *July 20.* West Wall.

THE *Cheston Plumb*, (*Fig. II. Plate XXIII.*) is a most delicious rich Fruit, and therefore deserves a South-East Wall ; its Colour is a deep Indigo, cover'd with a fine Violet Flew : 'Tis a good Bearer, and therefore no Gentleman that delights in these Fruits should be without it : Ripe *July 15.* West Wall.

THE *Maitre Claude*, (*Fig. VI. Plate XXIII.*) is another excellent Plumb, full of a fine rich Juice, and a firm Pulp, which comes from the Stone, and cover'd with a beautiful Mixture of Red and Yellow : Ripe *July 23.* South-East Wall.

THE *Reine Claudia*, or *Queen Claude*, (*Fig. VIII. Plate XXIII.*) is an excellent Plumb, yellow next the Sun when ripe, and cover'd with a Pearl-colour'd Flew. The Pulp is yellowish within, very firm, comes from the Stone, and is very full of an excellent sweet rich Juice, a good Bearer : Ripe *August 8.* West Wall.

THE *White Mirable*, (*Fig. VII. Plate XXIII.*) is a small Amber-colour'd Plumb, and a great Bearer ; its Pulp comes from the Stone, and is vastly rich, with a fine delicious sugar'd Juice. The Fruits are very richly sugar'd, even when produc'd on Standards, or Dwarfs, but much finer against an East or South-East Wall : Ripe *July 20, 1727.* from a Standard.

THE *White Matchless*, (*Fig. I. Plate XXIV.*) is a beautiful Fruit, of a light yellow Colour, cover'd with a white Flew. When this Fruit is well ripen'd, 'tis an excellent Plumb, but if eaten before 'tis ripe, the Pulp is something harsh and acid ; 'tis a tolerable good Bearer : Ripe *July 24, 1727.* West Wall.

THE *Black Damofine*, (*Fig. II. Plate XXIV.*) is a very pleasant acid Plumb, upon its Ripening, but afterwards more sugar'd ; its Pulp comes from the Stone, of a greenish Yellow within, very deep or rather a blackish Blue, cover'd with a fine Violet Flew ; 'tis a very good Bearer : Ripe *July 25, 1727.* East Wall.

THE *Queen Mother*, (*Fig. III. Plate XXIV.*) is an excellent Fruit, when fully ripen'd so as to be a little shrivel'd on the Tree ; its rich Pulp is yellow within, comes from the Stone, which is very small in Proportion to the Whole ; next the Sun is a dark Red, which loses its self with a few red Spots, in a dark Yellow : 'Tis a very good Bearer, but in some wet Soils 'tis very subject to be Maggot-eaten within-side : Ripe *August 12, 1727.* South Wall.

THE *Green Gage*, (*Fig. IV. Plate XXIV.*) is another of the very best Plumbs ; its Pulp is green, richly sugar'd, and comes from the Stone ; 'tis cover'd with a greenish yellow Skin, which, when ripe, hath a little Blush of red Spots next the Sun, with a very pale Flew. This, like the *Queen Mother*, is very subject to Worms or Maggots in wet Seasons : 'Tis a great Bearer when well pruned, and is an excellent Fruit even on Dwarfs or Espaliers, but much better against a South-East Wall : Ripe *July 30, 1727.* East Wall.

THE *Drab-d'or*, or *Cloth of Gold*, (*Fig. V. Plate XXIV.*) is another most valuable Plumb ; its Pulp is richly sugar'd when fully ripe, yellow within, and comes clean from the Stone ; its Out-side is a deep beautiful Yellow, speck'd with Red, and cover'd with a very light Pearl-colour'd Flew ; 'tis a very great Bearer : Ripe *July 20.* West Wall.

THE *St. Catherine*, (*Fig. IV. Plate XXIV.*) is an excellent good Plumb, when discretionally thin'd on the Tree, it being naturally a very great Bearer : The Pulp is very firm and sweet, yellow within, but it cleaves to the Stone ; its Out-side is an Amber-colour, cover'd with a whitish Flew.

IN a wet Season 'tis subject to Worms, which I believe to be generated by the Crudities of the Sap, for want of Perspiration ; because
when

when they are kept thin in wet Seasons, they are not so much affected therewith : Ripe *August* 12, 1727. East Wall.

THE *Yellow Diapree*, or *Diaper'd Plumb*, (*Fig. IV. Plate XXIV.*) is a small but very good Fruit ; its Pulp is a beautiful Yellow within and without, and comes from the Stone. It must be eaten as soon as gather'd, being something mealy when kept a Day or two afterwards : Ripe *August* 6, 1727. East Wall.

THE *Turkey Plumb*, (*Fig. V. Plate XXV.*) is a large beautiful Fruit ; its Pulp is of a greenish Yellow within, very sweet, and cover'd with a pleasant blackish Red when ripe : 'Tis a tolerable good Bearer : Ripe *July* 20, 1727. South Wall.

THE *Mogule Plumb*, or *White Bonum Magnum*, (*Fig. VI. Plate XXV.*) also called the *White Holland*, or *Dutch Plumb*, an excellent Fruit for Baking or Preserving ; when 'tis ripe its Pulp is very yellow within, as well as without, and cover'd with a fine white Flew : The Pulp sticks to the Stone, hath a fine sharp Acid when ripe ; 'tis a very good Bearer, and a beautiful Fruit : Ripe *August* 20, 1727. South-East Wall.

THE *Wentworth Plumb*, (*Fig. IV. Plate XXV.*) so called from its being first planted in the Gardens of the Right Honourable the Earl of *Strafford* at *Twickenham* : Its Form, Colour, and Taste, are exactly the same as the *Mogule* ; but as the *Mogule* cleaves to the Stone, this parts freely from it, and therefore it is looked upon to be the very best Plumb in *England* for Preserving ; 'tis a good Bearer : Ripe *August* 20, 1727. South-East Wall.

THE *Imperatrice*, (*Fig. III. Plate XXV.* called by some the late *Violet*, or *Blue Perdrigon*) is a most delicious Fruit when 'tis suffer'd to hang on the Tree until 'tis a little shrivel'd ; its Pulp is a greenish Yellow within, vastly rich, with a fine sugar'd Acid, and cleaves to the Stone : The Out-side is a blackish Red, cover'd with a fine Violet Flew ; 'tis a good Bearer : Ripe *September* 10, 1727. South-East Wall.

THE

THE *White Pear Plumb* (Fig. I. Plate XXV.) is another excellent Plumb for Preserving, and the Table also, when fully ripe, its Juice being very agreeably mix'd with a pleasant sugar'd Acidity ; the Pulp is a yellowish Green, cover'd with a fine light Flew ; 'tis a good Bearer, and ripens late, *September 10, 1727.* North Wall.

N. B. THE Black Pear Plumb, (Fig. II.) is an excellent Fruit for Baking and Preserving ; and altho' 'tis a very common Plumb, yet it must not therefore be despis'd, as wise Florists do good Flowers, when they become common in every Man's Garden besides their own.



An Alphabetical TABLE of the preceding Plumbs,
exhibiting their Times of Ripening, and different
Aspects.

	Ripe.	Aspects.
CHESTON ——— ———	July 15,	West Wall.
CATHERINE ——— ———	Aug. 12,	South-East.
DRAB-D'OR ——— ———	July 20,	West.
DIAPRE <i>Yellow</i> ——— ———	Aug. 6,	East. .
DAMOSINE <i>Black</i> ——— ———	July 25,	East.
FOTHERINGHAM ——— ———	July 14,	South-East.
GREEN GAGE ——— ———	July 30,	East.
JEAN-HATIVE ——— ———	June 9,	South-East.
IMPERIAL ——— ———	July 15,	North-West.
IMPERATRICE ——— ———	Sept. 10,	South-East.
MIRABLE <i>White</i> ——— ———	July 20,	Standard.
MOROCCO ——— ———	July 14,	East.
MAITRE CLAUDE ——— ———	July 23,	South-East.
MATCHLESS <i>White</i> ——— ———	July 24,	West.
MOGULE ——— ———	Aug. 20,	South-East.
ORLEANS ——— ———	July 10,	South-East.
PRIMORDIAN <i>Blue</i> ——— ———	July 1,	South-East.
PERDRIGON <i>Blue</i> ——— ———	July 20,	West.
PERDRIGON <i>White</i> ——— ———	Aug. 1,	West.
PERDRIGON <i>Musk</i> ——— ———	July 20,	West.
PERDRIGON <i>Cerney</i> ——— ———	July 30,	West.
QUEEN MOTHER ——— ———	Aug. 12,	South.
ROYAL ——— ———	July 20,	South-East.
REINE CLAUDIA ——— ———	Aug. 8,	West.
TURKEY ——— ———	July 20,	South.
VIOLET ——— ———	July 15,	West.
WENTWORTH ——— ———	Aug. 20,	South-East.
WHITE PEAR PLUMB ——— ———	Aug. 30,	North.



C H A P. XVIII.

Of PEACHES *and* NECTARINES.

ALTHO' Nectarines differ from Peaches in their Colour, Smoothness of Skin and Taste, yet their Propagation and Manner of Pruning, &c. are the same ; so that when I am treating on the ordering of Peach-Trees, the same is to be understood of Nectarine Trees.

ALL Kinds of Peaches produce their Fruits upon the last Year's Wood, as A B, *Fig. VII. Plate II and III.* which never bears again, but produce from Shoots or Fiddes yearly afterwards, as C D E, on B F the two Years Wood ; and the like of the small Shoots D E F G, (*Fig. X.*) produced from the two Years Wood X W of the *Catherine* Peach : And 'tis therefore that we must always, during the Summer Season, preserve a sufficient Quantity of new Wood to succeed the old.

THE Blossom-Buds of Peaches *III, &c.* being very plump, and larger than the Leaf-Buds *iii, &c.* are easily distinguish'd from them, when we come to make Choice thereof at the Time of Pruning.

IT appears by the Shoots of the Apricot (*Fig. III. Plate VIII, IX.*) that the Blossoms at the extreme Parts are much weaker than those at B : For as the extreme Part A was produced when the Vigour of the Sap was over, and the Season colder than in the Spring, they are therefore very weak and immature ; and 'tis for this Reason that the Ends of young Branches, which are produc'd late in the Spring, are prun'd.

BUT

BUT since that there is not so much as one Leaf-Bud between B and A, therefore that at A, the extreme Bud, must not be pruned, because there is no other Leaf-Bud to attract Nourishment to the Blossoms, and perspire away the Crudities thereof; for was that Shoot to have the Leaf-Bud A prun'd off, the whole Branch would perish when the Fruits are ripen'd, if any happen to grow thereon.

AND 'tis the very same in the Branches of Peach-Trees: for was the Branch A B, *Fig. VI. Plate VIII and IX.* to have its leading Bud A prun'd away, it would die as aforesaid; but if the last Year's Shoot A B, *Fig. VII. Plate II and III.* were to be prun'd at the Bud *i*, it would not die, because it is a Leaf-Bud, and of the same Nature as the extreme Bud *b*.

THERE are many Kinds of Peaches which produce Leaf-Buds near to their Blossom Buds, as B *fff, &c. Fig. VI.* and *nnn, &c. Fig. VIII. Plate II and III.* which is a very great Advantage to the Fruits, in strongly attracting Nourishment to them, as well as freely perspiring away the Crudities thereof.

THE like is also exhibited at A E F B, *Fig. IV. Plate VIII and IX.* and B C D, *&c. Fig. I. Plate XI.* the last Year's Shoot of the *Albemarle Peach*, and 'tis always seen that those Kinds of Peaches are the best tasted and most fruitful.

PEACHES have a very great and beautiful Difference in the Magnitudes and Colours of their Blossoms: The earliest being for the generality very large and beautiful, as the old *Newington*, *Fig. IX. Plate II, III.* and *Fig. VI. Plate VIII, IX.* and the *Albemarle Peach, &c. Fig. VI. Plate II, III.* And the late Kinds very small, but yet very beautiful in their Kinds, as the *Catherine*, *Fig. VIII. Plate II, III.* the late *Admirable, &c. Fig. V. Plate VIII, IX.*

THE Goodness of Peaches depends very much upon their Quantity, for they are never worth any thing when left very thick upon the Trees, which is always done by a covetous Temper, which makes good the old Proverb, *All covet, All lose.*

THIS

THIS very Year I number'd 103 Dozen of *Early*, or *Smith's Newington Peaches*, on one single Tree, in the Garden of a very reputed Gardener for the Management of Fruits, which being in general very small, and insipid tasted, were sold at Market for Six-pence *per* Dozen : Now had Nature been kindly treated with, and burden'd with 10 or 15 Dozen only, instead of so many, she would have been able to have produc'd them with their true Tastes, and all other Qualities, in the greatest Perfection.

I HAVING already laid down the Distances that the Branches should be laid from each other, (*viz.* the Length of their Leaves) it only remains to shew their Distances that they should ripen at upon the Branches, which is exhibited by *Fig. II. Plate XXVI.*

THUS far by Way of Preliminary ; now we'll proceed to the Fruits themselves.

THE first ripe Peach is the *White Nutmeg*, or *Early White Peach*, (*Fig. I. Plate XXVII.*) its Juice is sweet and something musky, when well ripen'd ; its Colour is a very light, or rather a pale Green ; 'tis a great Bearer : Ripe *June 15, 1727.* South Wall.

THERE is also another Sort of *Nutmeg Peach*, which is called the *Red Nutmeg*, or *Troy Peach*, which ripens soon after the *White Nutmeg*, and is a great Bearer also : Its Fruits are generally something larger than the other, but in Taste much the same, having a beautiful, broken, Vermilion red Colour next the Sun.

THE *Ann Peach*, (*Fig. II. Plate XXVII.*) is a small, but very good Peach, succeeding the Nutmegs ; its Pulp is very pleasant, and comes from the Stone ; 'tis a good Bearer : Ripe *July 10, 1727.* East Wall.

THE *Red Magdalene*, (*Fig. V. Plate XXVII.*) is a good Fruit, and full of a rich sugar'd Juice : It comes from the Stone, which is very red, as is also the Inside of the Pulp next about it ; next the Sun 'tis a blackish Red, which loses itself in a faint Green ; 'tis a good Bearer : Ripe *July 20.* South Wall.

THE
†

THE *White Magdalane*, (*Fig. VI. Plate XXVII.*) comes from the Stone, which is of a light Cinamon Colour. The Pulp next to it is very white, excepting that Part of it which is next the Rib of the Stone, which is a little ting'd with Red : The Pulp is of a great Substance, full of a fine sugar'd winy Juice, and melting ; 'tis a good Bearer : Ripe *July 30.* West Wall.

THE *Tuteon de Venice* (*Fig. IV. Plate XXVII.*) is commonly taken for the *White Magdalene*, being very like it : It comes from the Stone which is a Cinamon Colour, but the Pulp next about it is a light Green, wherein it only differs from the *White Magdalene* ; 'tis a very good Fruit, and a great Bearer : Ripe *July 20.* South-West Wall.

N. B. *BOTH these last Peaches have very little Red in them next the Sun, being chiefly a pale Green.*

THE *Rozanna*, (*Fig. III. Plate XXVII.*) comes from the Stone, which is a brown Colour ; the Pulp next about it is very Green : Its Juice is very rich, and therefore in great Esteem among the Curious ; next the Sun 'tis very Red, which loses it self in a faint Green ; 'tis a great Bearer : Ripe *July 20.* South-West Wall.

THE *Smith's Newington*, (*Fig. I. Plate XXVIII.*) also called the *Early Newington*, is a very good Fruit, and great Bearer ; its Pulp is firm and very like the *Old Newington*, but, in my Opinion, much short of that most delicate Flavour which the *Old Newington* abounds with : It closely adheres to the Stone, and is of a beautiful Red next the Sun : Ripe *July 25, 1727.* South-East Wall.

THE *Minion*, (*Fig. II. Plate XXVIII.*) its Pulp abounds with a fine rich sugar'd Juice, and adheres close to the Stone, which is a dark Red ; as is also the Outside next the Sun : The Pulp is very firm, and full of small red Spots under the red Part of the Skin, when pared ; 'tis an excellent Fruit, and a good Bearer : Ripe *July 20.* South Wall.

THE *Nobleſs*, (*Fig. III. Plate XXVIII.*) or *Nobleſt*, is an excellent Fruit, and truly worthy of its Name : It comes from the Stone, which

D d

has

has a Peek rising on its upper End, like that of the Fruit ; 'tis of a brown Colour, deeply indented, with many Fibrous Parts of the Pulp closely adhering to it : The Pulp is melting, full of a delicious Juice, a little colour'd with Red next the Stone, and streak'd with dark Streaks of Red without next the Sun ; a good Bearer : Ripe *July* 20, 1727. South Wall.

THE *Montabon* (*Fig. IV. Plate XXVIII.*) is an excellent Fruit ; its Pulp is tender and melting, and comes from the Stone, which is a brown Red : The Inside of the Pulp next the Stone is mix'd with light Red, but the Outside next the Sun is a deep Red ; 'tis a very good Bearer : Ripe *July* 30. South Wall.

THE *Bordine*, (*Fig. V. Plate XXVIII.*) is a very valuable Fruit ; its Pulp comes from the Stone, of a fine vinous Taste, and of a lovely Red next the Stone, which is of a dark Cinamon Colour, to which some few Fibres of the Pulp adheres : Next the Sun a sudden Red, which loses it self with small Spots of Red in a yellow Green ; 'tis a good Bearer : Ripe *July* 30, 1727. West Wall.

THE *Newington Nectarine*, (*Fig. I. Plate XXIX.*) its Pulp closely adheres to the Stone, which is very red, full of an excellent rich Juice when perfectly ripe, which is known by its hanging until it is a little shrivel'd ; its outward Colour next the Sun is very red, which loses it self in a strong Yellow ; 'tis a good Bearer : Ripe *July* 30, 1727. South Wall.

THE *Roman Nectarine*, (*Fig. II. Plate XXIX.*) its Pulp closely adheres to the Stone, which is very red, as also its outward Skin next the Sun, which is lost in a fine deep Yellow : When 'tis well ripen'd 'tis an excellent Fruit, full of a fine delicious sugar'd Juice ; 'tis a good Bearer : Ripe *July* 30. South Wall.

THE *Elruge Nectarine*, (*Fig. III. Plate XXIX.*) has a soft melting Pulp, comes from the Stone, and very red next about it ; but the Stone is a brown Red : The Out-skin is a very black Red next the Sun, which loses it self in a yellowish Green next the Wall ; 'tis a very good Bearer : Ripe *July* 30, 1727. South Wall.

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THE *Italian*, or *Brunion Nectarine*, (Fig. IV. Plate XXIX.) is a most excellent, rich, vinous-flavour'd Fruit, when well ripen'd ; its Pulp is very firm, and cleaves to the Stone, which is very red, as also is the out Part next the Sun, which loses it self in a pleasant Yellow : Ripe *August 6*, 1727. South-West Wall.

THE *Golden Nectarine*, (called by some, tho' falsely, the *Temple Nectarine*, Fig. V.) its Pulp adheres very close to the Stone, which is of a very light Brown, or Snuff Colour : 'Tis very yellow within as well as without, excepting next the Sun, where 'tis intermix'd with Spots and Streaks of Red ; 'tis a fine rich flavour'd Fruit when well ripen'd, and therefore it should not be gather'd until 'tis something shrivel'd ; 'tis a good Bearer : Ripe *August 20*. West Wall.

THE *Early Admirable*, (Fig. II. Plate XXX.) comes from the Stone, which is of a Cinamon Colour ; the Pulp next to it is white, with some few Tinctures of Red : it may be justly called *Admirable* in regard to its fine delicious melting Pulp : The out Part next the Sun is streaked with pleasant Red, which loses it self in a light Yellow ; 'tis a good Bearer . Ripe *August 3*, 1727. South-East Wall.

THE *Temple Nectarine* (Fig. I. Plate XXX.) comes from the Stone, which is a Cinamon Colour ; the Pulp is white next the Stone, melting, and full of a fine rich Juice, something acid. Next the Sun 'tis of a Carnation Red, which is lost in a yellowish Green ; 'tis a good Bearer : Ripe *September 4*. West Wall.

THE *Pafs-Violet*, (Fig. III. Plate XXX.) or *Double Troy Peach* ; its Pulp comes from the Stone, being very red next about it : its Taste is very like the *Red Nutmeg*, but its outward Coat is of an Orange Colour, faintly dotted with brownish Red : Ripe *August 6*, 1727. East Wall.

THE *Nivet* (Fig. IV. Plate XXX.) comes from the Stone, which is very red, as also the Pulp next about it, but within 'tis very yellow : 'tis a fine rich sugar'd melting Fruit, of a dark Red next the Sun, which

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is lost in a faint Yellow ; 'tis a good Bearer : Ripe *August* 8, 1727. East Wall.

THE *Purple Alberge*, (*Fig. V. Plate XXX.*) so called, being cover'd with a Coat of Purple about the Blossom-End, which loses it self in a dark Red, blended with Yellow ; its Pulp is yellow within, and very red about the Stone, from which it parts : 'Tis a most delicious rich juicy Fruit, and a good Bearer : Ripe *August* 3. East Wall.

THE *Violet-Hative* *Fig. VI. Plate XXX.*) comes from the Stone, which is of a lively Red on the Edges, but on the Bulge a Chocolate Colour : Next to the Sun 'tis a very dark Red, which is softned off in a softer Red, which at length is lost with small red Spots, in a Ground blended with Red and Yellow : Its Juice is the most delicious I ever tasted, it far excels the *Old Newington*, notwithstanding that is so excellent a Fruit : Ripe *August* 8. East Wall.

THE *Old Newington* (*Fig. I. Plate XXXI.*) its Pulp closely adheres to the Stone, which is of a lively Red, and very full of a most delicious rich Juice ; its Pulp is very firm when ripe, and of a beautiful Red next the Sun, which loses it self in yellowish Green when ripe : It is but an indifferent Bearer when nail'd in thick with Wood, but the reverse, (as before noted) when the Branches are laid about nine Inches apart : Ripe *August* 6. South Wall.

THE *Albemarle* (*Fig. II. Plate XXXI.*) comes from the Stone, which is of a brownish Red ; but the Pulp next the Stone is a fine Vermilion Red, and of a very great Thickness ; its Pulp is melting, and full of a very rich vinous Juice : Next the Sun 'tis very dark Red, which is softned off, and lost in a yellowish Green, set very thick with small red Spots ; 'tis a good Bearer : Ripe *August* 8. South Wall.

THE *Brook's Peach*, so called from the Lord *Brooks*, who first propagated it in his Gardens at *Twickenham* in *Middlesex*, (*Fig. III. Plate XXXI.*) Next to the Sun 'tis of a fine Vermilion Red, which loses it self with small red Spots in a yellowish Green. The Pulp is of very great Substance, and comes from the Stone, which is of a Cinamon Colour ; the inward Part of the Pulp next about the Stone is very white :

white ; its Juice is very delicious, and the Pulp melts in eating ; 'tis a very good Bearer : Ripe *August 8*. West Wall.

THE *Hemskirk*, (*Fig. IV. Plate XXXI.*) is a most beautiful delicious Fruit ; the Pulp has a small Adherence to the Stone, which is of a dark red Colour, as also the Pulp about it : Its Outside next the Sun is a very deep or blackish Red, which goes off gradually towards the back Part, which is set very thick with small red Spots ; 'tis a very fleshy Fruit, and a good Bearer : Ripe *August 8, 1727*. South-East Wall.

THE *Bellows*, (*Fig. V. Plate XXXI.*) is a very great Bearer, and an excellent good Fruit : Its Pulp comes from the Stone, which is a light Brown, and the Pulp next about it very white, with a Tincture of Red next the Cleft or Edge of the Stone : Its Skin, which does freely peel off, is of a pleasant Red next the Blossom-End, and loses it self with small red Specks in a yellowish Green : Ripe *August 1*. West Wall.

THE *Swalze* or *Swolze*, (*Fig. I. Plate XXXII.*) is said to be first brought to *England* by the Lord *Peterborough* ; its Pulp comes from the Stone, which is very red, as well as the Pulp next about it, and 'tis commonly larger than in the Figure : Next the Sun 'tis a very deep Red, which is softned off with small red Spots in a faint Yellow ; its Juice is very rich, and 'tis a good Bearer : Ripe *August 1*. West Wall.

THE *Pavy Royal* (*Fig. II. Plate XXXII.*) comes from the Stone, which is of a Cinamon Colour ; its Pulp is very red about the Stone, containing a Juice equal to the best Peach or Pavy in the World : Its Outside is a black Red, beautifully strip'd with a fine Vermilion Red, which is softned off in a yellowish Green ; 'tis a very good Bearer, and were it to be nail'd in very thin, it would, without Dispute, be the very best Peach in *England* : Ripe *August 15, 1727*. East Wall.

THE *Porpre* (*Fig. III. Plate XXXII.*) comes from the Stone, which is both red and brown : The Pulp next about the Stone is very red, and, if eaten before quite ripe, has very much of the *Old Newington* Taste in it ; but the Juice is much finer when fully ripen'd : Ripe *August 24, 1727*. East Wall.

THE *Rickets Peach*, (*Fig. IV. Plate XXXII.*) so called in regard to its being first propagated by Mr. *Rickets*, late a Nursery-man at *Hoxton*: It comes from the Stone, which is of a Cinamon Colour, with a Tinge of Red in the Clefts; the Pulp next the Stone is of a beautiful Red, which loses it self in an almost transparent white Pulp, which is melting and very full of a very sweet delicious Juice: its Outside next the Sun is of a very pleasant Vermilion Red, which is softned off with very small Spots in a light yellow Ground; 'tis a good Bearer: Ripe *August* 25, 1727. South-West Wall.

THE *Late Admirable* (*Fig. V. Plate XXXII.*) comes from the Stone, which is a Cinamon Colour, to which adheres many Fibrous Particles of the Pulp: Next the Stone it is a very deep Red, melting, and full of an excellent rich Juice; the Out-skin is of a pleasant Red next the Sun, which is softned off with very minute Spots, into a pleasant Yellow; 'tis a very good Bearer: Ripe *August* 24, 1727. South Wall.

THE *Bell Chevreuse*, commonly called *Cheveruse*, (*Fig. I. Plate XXXIII.*) comes from the Stone, which is of a light brown Colour; and next about it the Pulp is of a pleasant Vermilion Red, which is full of a soft sugar'd Juice: The Out-skin next the Sun is a strong Red, that is softned off in a light Green; 'tis a good Bearer: Ripe *August* 24, 1727. South-West Wall.

THE *Burdock* (*Fig. II. Plate XXXIII.*) its Pulp adheres to the Stone, which is of a Cinamon Colour; 'tis of a very great Substance, very firm, and full of a most delicious rich Juice: Its Outside next the Sun is a beautiful Vermilion Red, which is softned off with small red Spots in a pleasant yellow Green; 'tis a good Bearer, and as good a Fruit as any of the Kind: Ripe *August* 30, 1727. South Wall.

THE *Rumbolion*, or *Rumbulion*, (*Fig. III. Plate XXXIII.*) comes from the Stone, which is of a Cinamon Colour; the Pulp next about it is of a light Red, and its inward Pulp of a fine Yellow; 'tis full of a fine vinous rich Juice, and is an excellent Fruit: The Outside next the Sun is a fine pleasant Red, which is softned into a light Yellow; 'tis a good Bearer: Ripe *September* 20. West Wall.

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THE *Italian Peach* (Fig. V. Plate XXXIII.) comes from the Stone, which is very like the Stone of the *Rickets Peach* in its Colour ; its Pulp next about the Stone is a deep Red, and next the Sun a blackish Red, cover'd with a very thick Cotton or Down, which is softned off with small red Spots in a light yellow Ground : 'Tis melting, and full of very rich sugar'd Juice ; the Pulp is of very great Substance, and in brief it is not inferior to the very best Peach growing, when planted against a South-East Aspect in a warm Soil ; 'tis a good Bearer : Ripe September 5, 1727. South-East Wall.

THE *Malacotune* (Fig. IV. Plate XXXIII.) its Pulp adheres to the Stone, which is a pleasant Red : The Pulp is very firm, and of a fine rich Flavour, not unlike that of the *Old Newington* : Next the Sun 'tis a deep Vermilion Red, which is softned off with beautiful Flakes or small Patches of the same, in a yellowish Green ; 'tis a good Bearer : Ripe September 10, 1727. South Wall.

THE *Catherine*, (Fig. VI. Plate XXXIII.) tho' a late, yet an excellent fine rich-flavour'd Fruit, when there is but a reasonable Quantity on the Tree, the Season kind, and planted in a warm moist Soil, and South-East Aspect ; 'tis a great Bearer : Ripe September 15, 1727. South Wall.

THE *Bloody Peach*, (Fig. VI. Plate LXXII.) so called from its Pulp being entirely red within ; it comes from the Stone, which is a black or rather a Purple Red, as is also the Pulp next about it : The Outside is, in Consideration of its late Ripening, well defended from the Injuries of Heat and Cold, by a very great Covering of a Cottony or Downey Substance, under which is a very black or Purple Red : 'Tis a very great Bearer, and, considering its late Season of Ripening, which is *October*, 'tis not a bad Fruit ; and therefore every Garden, even for Curiosity's Sake only, should not be without one Tree thereof at the least.

An

An Alphabetical TABLE of the preceding Peaches, exhibiting their Times of Ripening, and different Aspects.

	<i>Ripe.</i>	<i>Aspects.</i>
ANN PEACH ———	July 10,	East Wall.
ALBERMARLE ———	Aug. 8,	South.
ADMIRABLE <i>Early</i> —	Aug. 10,	South-East.
ADMIRABLE <i>Late</i> ———	Aug. 24,	South.
ALBERGE PURPLE ———	Aug. 3,	East.
BROOKES PEACH ———	Aug. 8,	West.
BELLOWS ———	Aug. 1,	West.
BORDINE ———	July 30,	West.
BELL-CHEVERUSE ———	Aug. 24,	South-West.
BLOODY PEACH ———	Oct. 10,	East.
* BURDOCK ———	Aug. 30,	South.
CATHERINE ———	Sept. 15,	South.
ELRUGE NECTORINE —	July 30,	South.
* GOLDEN NECTORINE	Aug. 20,	West.
HEMSKIRK — — —	Aug. 8,	South-East.
ITALIAN PEACH ———	Sept. 10,	South-East.
* ITALIAN NECTORINE	Aug. 6,	South-West.
MAGDALENE <i>White</i> —	July 30,	West.
MAGDALENE <i>Red</i> ———	July 20,	South.
MINION ———	July 20,	South.
MONTABON ———	July 30,	South.
* MALACOTUNE ———	Sept. 10,	South.
NIVET — — —	Aug. 8,	East.
* NEWINGTON NECT.—	July 30,	South.
* NEWINGTON <i>Smith's</i> —	July 25,	South-East.
* NEWINGTON <i>Old</i> —.	Aug. 6,	South.
NUTMEG <i>White</i> ———	June 15,	South.
NUTMEG <i>Red</i> ———	June 25,	South.
NOBLESS — — —	July 20,	South.
PORPREE — — —	Aug. 24,	East.
PAVY ROYAL ———	Aug. 15,	East.

PASS-VIOLET

		<i>Ripe.</i>	<i>Aspects.</i>
PASS-VIOLET	——	<i>Aug. 6,</i>	East.
RUMBULLION	——	<i>Sept. 20,</i>	West.
ROZANNA	——	<i>July 20,</i>	South-West.
RICKETS	——	<i>Aug. 25,</i>	West.
* ROMAN NECTORINE	——	<i>July 30,</i>	South.
SWALZE	——	<i>Aug. 1,</i>	West.
TEMPLE NECTORINE	——	<i>Sept. 4,</i>	West.
TUTEON DE VENICE	——	<i>July 20,</i>	South.
VIOLET-HATIVE	——	<i>Aug. 8,</i>	East.

N. B. *THOSE Fruits whose Pulps adhere to their Stones are called Pavies, which in this Table are distinguished by a Star * placed against them : The others without the aforesaid Character are called Peaches, because their Pulps are melting, and come freely from their Stones.*





C H A P. XIX.

Of GRAPES, and their ORDERING.

VINES do not directly produce their Bunches of Fruits from the first four Buds of the last Year's Shoots, as many imagine, but from new Branches or Shoots, which are produc'd from those Buds or Joints, whose third, fourth, and fifth Joints, produce the Fruits we receive.

IT is a common Method amongst most Gardeners, to prune the last Year's Shoots of Vines to four Buds, (as *Fig. I. Plate LIV.*) imagining that their Fruits are produc'd as aforesaid: And indeed where there is Plenty of Wood the Method is not amiss, when Vines are growing against a Wall; but in Vineyards 'tis entirely wrong, if the Vines are in a good State of Health: For when the Season has produc'd Branches that are truly healthful and mature, they may be prun'd to three Feet each in Length; and if afterwards, in the Spring, they are inclin'd to an almost horizontal Position, at proper Distances from each other, so as to have a free Perspiration, every Bud would produce a Shoot, and each Shoot two or three Bunches of Grapes; so that instead of having from one Shoot, after the common Method of Pruning, to four Joints, but three or four Bunches only, we may have ten or twelve, and each equally as good; and consequently a very few Plants will produce a great Quantity of Fruits. If any doubt or dispute the Truth hereof, let them but go and view the Vines now growing in the Garden of Mr. *Warner* at *Rotherhitb*, which, by his judicious Management after the Manner before describ'd, annually produce great Quantities of the *Burgundy*, and, if I mistake not, the *Claret-Grape* also, with which he

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makes chearful Nector for the Accommodation of his Friends. But since that our Climate and Soil, in many Parts of *England*, is not natural to the Vine, so as to produce our best Sorts of Grapes in open Vineyards, we must therefore plant them against our best aspected Walls, that their Juices may be ripen'd in as good Perfection as the Season is able to produce.

THE most natural Soils for Vines, are rich, dry, light, sandy, rocky, or chalky Lands, inclinable to a Gravel : For as they don't imbibe and perspire so much as Apples, Pears, &c. which delight in moist stiff Lands, therefore less Moisture bears a nearer Proportion to their Nature ; for there's nothing destroys Vines sooner than an over-and-above Quantity of Moisture.

FOR tho' the Vine bleeds most freely in its bleeding Season, and produces many long succulent Branches, and great Plenty of very juicy Fruits ; yet from the third Experiment of Mr. *Hales's Vegetable Staticks*, p. 17. it is plain, that the Vine is not a great Perspirer, and therefore thrives best in dry Soils.

THIS is manifested by young Vines, which, when planted exactly under the Drops of Houses, instantly perish.

THE best Season for Pruning the Vine, is the End of *September* ; for as the Season is then warm, the several Orifices are immediately healed, so that in the following Spring, when the Sap begins to rise, in the bleeding Season, it cannot be diminish'd thereby, and consequently every Branch is better able to produce good Fruits, than when prun'd in an improper Season, and greatly weaken'd by the Loss of Sap.

THE closer or nearer together the Buds of young Shoots are, the more fruitful ; and therefore we should observe, at the Time of Pruning, to lay in such Branches, whose Lengths need not be constrain'd to four Joints, as is common, but in Proportion to their Length or Thickness. A very strong Branch may be laid in at two Feet and a half in Length, others less stronger, two Feet, eighteen Inches, a Foot, &c.

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THE nearest Distance that the Branches of Vines should be laid at, should be never less than one Foot, for if they have not abundance of Air to perspire in, they will not thrive. All those Kinds whose Leaves are very large, as the *Raisin Grape*, (*Plate XLIII, XLIV.*) should, for the same Reason, be laid at greater Distances.

THE second, third, fourth, &c. Years Wood of the Vine, being, after the first Year, for ever barren of themselves of producing any more Fruits; we must therefore be always bringing up young Wood from the Bottom, and other Parts of the Vine, to succeed the preceding. But however, altho' that the Branches of Vines do not of themselves produce Fruits after the first Year, yet Nature has been so careful as to make a Provision otherwise, which is at their several Joints; from whence every Year small Branches are produced, (called by the *French Coursons*) which oftentimes produce good Fruits, as well as young Wood also, when 'tis wanted to succeed that which is by Time wholly barren, being pruned at the second Bud, from the old Wood.

BUT we must not suffer any of these Kinds of Shoots to grow forward from the Wall; and therefore those for our Purpose are such as in their natural Growth, lie flat or parallel thereto.

WHEN we prune off the End of a Vine-Branch, we should cut it off sloping, behind the Eye, and about two Inches above the same.

ABOUT the Beginning of *May* we should look over our Vines, and nail close to the Wall all the several young Shoots, which are furnish'd with Bunches of Fruits which then appear, as *Fig. II. Plate X.* that, as their Leaves augment their Magnitudes, and the Heat of the Summer advances, they may be protected during their Growth, from the Injuries of Heat and Cold: For those Grapes that are suffer'd to grow on Branches about six, eight, or ten Inches from the Wall, and thereby fully exposed to the Sun, and drying Winds, have their tender Sap-Vessels soon dried up, and are therefore never worth a Farthing.

TOWARDS

TOWARDS the End of *May*, we should have Recourse to our Fruits, stopping their Branches at the third or fourth Joint beyond the last Bunch, and not at the Joint next above it, as exhibited in *Plate XXXIV.* which is commonly practis'd by unskilful Gardeners, by their want of knowing the attractive Power of Leaves, and their Use in Perspiration: For when the Branches of Vines are thus pruned, how is it possible that the Fruits can be so strongly nourish'd, when they are depriv'd of proper Instruments, which Nature had provided to furnish them with; so that instead of helping the Fruits, as they imagine, (like most of all their other Operations) they depauperate, and render them, at best, very insipid and tasteless; nay, they very often perish, and then forsooth the Coxcombs imagine that their Fruits are destroy'd by a Blight.

WHEN these two Operations are performing, we should displace all forward Branches, and others that appear useless, which, if suffer'd to grow, never fail of injuring the Fruits, and the other Branches.

TOWARDS the latter End of *July*, the small *July* Grape, or early Grape of *Zantoyne*, *Fig. II. Plate XLVII.* begins to ripen, at which time we should by Degrees acquaint those Fruits with more of the Sun, to ripen their Juices. This Grape is a great Bearer, and, being very sweet, and its Skin thin, is generally destroy'd by Wasps, if Care is not taken to destroy them, either by Vials of sugar'd Water, hung up to drown themselves in, or rather their Nests destroy'd in the Night with a Fuzze of Gunpowder, fir'd and stopp'd into the Entrances to their Nests, which suffocates them in general, so that afterwards you may dig down, and burn them in general: 'Tis of a fine Indigo Blue, full of a most delicious Juice: Ripe *July* 20. South Wall.

BUT since that the other Kinds of Grapes do not ripen with this Kind, we must therefore let some of them remain longer before we expose them to the Sun, that they may continue longer with us, instead of being in general ripe together.

THE other Kinds of Grapes worth our Notice, are the *White Sweet Water*, (*Plate L.*) which is a fine large white Grape; its Skin is very thin, and therefore subject to Wasps: 'Tis an excellent good

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Grape, and generally very large, and transparent when ripe, but the Bunches are very thinly set therewith : Ripe *August* 10. South Wall.

THE *White Muscadine*, (*Plate XXXV.*) is one of the best Kind of Grapes for ripening in *England*: 'Tis a very great Bearer, and, when skilfully order'd, an excellent Fruit ; when 'tis near ripe, 'tis transparent, and when fit to gather, something ting'd with Amber next the Sun : Ripe *August* 15.

THERE is another Sort of *White Muscadine*, which is very thinly set on the Bunches, but the Grapes are very large, and most deliciously sweet when ripe, and therefore called the *Royal Muscadine*,

THE *Black Sweet Water*, (*Plate LI.*) so called from its Wood, which is of a blackish Colour, and the Stalks of the Bunches a blackish Red, but the Grapes are white, cover'd with a fine white Flew, and of an oval Form ; 'tis also called the *Morellian Grape* : Before 'tis ripe the Juice is very sowre, and the Skin very tough ; but when quite ripe 'tis very sweet, but something watery : Ripe *August* 20.

THE *Black Currant Grape* (*Fig. I. Plate XLVI.*) is a most delicious Fruit, something oval in its Form : 'Tis a very good Bearer, and produces Fruit which is cover'd with a fine Violet Flew, very close set in the Bunch : Ripe *August* 24. South-East Wall.

THE *Brick Grape*, (*Fig. I. Plate XXXIX.*) so called from its brown red Colour ; 'tis a tolerable good Bearer, and a very pleasant sweet Fruit : Ripe *August* 24. South Wall.

THE *Parsley Grape*, or *Canada Grape*, (*Fig. I. Plate LXVIII.*) so called from the Country from which it came, and its Leaf being divided into many Parts, like unto the Parsley Leaf, and is therefore called the Parsley Grape : The Fruit is white, and in Form and Taste like the *White Muscadine*, but seldom so large : Ripe *August* 24. South Wall.

THE *Black Muscadine*, (*Plate XXXVI.*) called by some, but improperly, the *Red Muscadine* : When the Grapes are beginning to ripen, the Leaves are very beautifully mixt with Purple, Red, Yellow, &c. 'Tis

'Tis an excellent good Fruit when well ripen'd ; its Colour a fine Indigo, cover'd with a pleasant Violet Flew, and a tolerable good Bearer : Ripe *September 20*, 1727. South Wall.

THE *Cluster Grape* (*Fig. II. Plate XLII.*) is a fine delicious Grape, of a strong Indigo Colour, cover'd with a Violet Flew, and very close set in the Bunch, and therefore called the *Cluster Grape*. This Grape is called by some the *Black Currant Grape*, which ripens full three Weeks sooner : 'Tis a very great Bearer, and ripe *September 20*, 1727. South Wall.

N. B. THE *Pulp* being very sweet, is often destroy'd by Wasps ; and the only Method to preserve them, is to put them in Oily Bags when nearly ripe.

THE *White Frontinac* (*Plate XXXVII.*) is a most delicious, sugar'd, musky, juicy Grape when well ripen'd, which does not always happen with us ; however we must not therefore be without them : 'Tis a very great Bearer, and ripens, in a kind Season, about the Middle of *September*.

THE *Black Frontinac* (*Plate XXXVIII.*) is a most excellent Fruit ; its Juice is rather richer and fuller of Musk than the preceding, with a very rich Acidity : This, like other Grapes that are vulgarly called Black, is a dark Indigo, cover'd with a fine Violet Flew.

BESIDÉS these two Kinds of *Frontinac's*, there is another, whose Fruits are a yellowish White, strip'd with a Copper Colour, and therefore called the *Grizel Frontinac*, which, when ripe, is equally as good as either of the preceding : These two last ripen much about the same Time as the preceding, and are very good Bearers.

THE *Muscat Grape* is a little like the *White Frontinac*, but a smaller Grape, and full of a fine delicious musky Juice ; 'tis a very good Bearer : Ripe *September 20*. South Wall.

THE *St. Peter's Grape*, is a fine large black Grape, cover'd with a Violet Flew : Its *Pulp* is a little ting'd with red, very firm, with a most delicious rich Juice ; 'tis a great Bearer : Ripe *Oct. 10*. West Wall.

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THE *Hermitage Grape*, is a most delicious rich sugar'd Grape, but the Skin is something tough, and a little bitter : The Grapes are transparent when ripe, and speck'd with brown next the Sun, which is also ting'd with a faint Orange Colour : Ripe *September 20.* South Wall.

THE *Claret Grape*, (*Fig. II. Plate XLVII.*) is a small but beautiful Grape ; its Leaves turn red with the Fruit, and make a very beautiful Appearance : The Fruit when ripe is a deep Indigo, cover'd with a fine Violet Flew, the Juice something acid and a pleasant Red ; 'tis a very great Bearer : Ripe *September 30.*

THE *Burgundy Grape*, (*Fig. I. Plate XLI.*) is a black Grape, and very great Bearer ; 'tis the only Grape that ripens well in the open Vineyard ; its Leaves have a very great Cottony Down on their under Parts : The Grapes are very close in the Bunch, and have a fine rich vinous Juice, but the Skin is a little tough : Ripe in the open Vineyard *September 30.*

THE *Raisin Grape*, (*Plate XLIII and XLIV.*) is a most beautiful large white Grape, of a fine rich Flavour, and firm Pulp, when Seasons are kind enough to ripen it ; But even when Seasons are unkind, 'tis an excellent Fruit for Baking, and therefore we should not be without one or two of them, which should be planted against the very best Aspect we have.

THERE is another Kind of *Raisin Grape*, which, when ripe, is a pleasant Red, but it very seldom ripens in *England.*



*An Alphabetical TABLE of the preceding Grapes,
exhibiting their Seasons of Ripening.*

	Ripe.
BRICK GRAPE ———	Aug. 24.
BURGUNDY ———	Sept. 30.
CLARET — ———	Sept. 30.
CLUSTER — ———	Sept. 20.
CURRANT <i>Black</i>	Aug. 24.
FRONTINAC <i>White</i> ———	Sept. 20.
FRONTINAC <i>Black</i> ———	
FRONTINAC <i>Grizel</i> ———	
HERMITAGE ———	Sept. 30.
JULY GRAPE ———	July 20.
MUSCADINE <i>White</i> ———	Aug. 15.
MUSCADINE <i>Black</i> ———	Sept. 20.
MUSCADINE <i>Royal</i> ———	Aug. 25.
MUSCAT ———	Sept. 20.
PARSLEY ———	Aug. 24.
ST. PETER'S — — —	Oct. 10.
SWEET WATER <i>White</i> —	Aug. 10.
SWEET WATER <i>Black</i> —	Aug. 20.
RAISIN <i>White</i> , when it ripens	Oct. 30.

N. B. A FULL South Aspect is the best for all Kinds of Grapes.



H h

C H A P.



C H A P. XX.

Of F I G - T R E E S.



THE several Kinds of Figs that are worth our cultivating in *England*, are the White, the Blue, and the Black.

FIGS in general produce double Crops every Year in their native Soils and Climates ; but in *England* we have no other Kind but the *Short White Fig*, that produces and ripens two Crops every Year : The first Crop, (*Fig. I. Plate LII.*) is ripe about *July 10.* and the second Crop, *Fig. II.* (which is always much less than the first) about *September 10.*

THE *Long Blue Fig* (*Fig. II. Plate LIII.*) is the next, which ripens about the Beginning of *August*, and at the same Time the *Tarwney Fig*, (*Fig. III.*) is also ripe : They are both very good Fruits, but nothing comparable to the *Black Fig*, (*Fig. I.*) which is ripe *August 26.*

THE first Crop of Figs are always produced on the last Year's Wood, and are form'd at the same Time when the Shoots are.

IN *March* they are visible, as *a a a*, &c. *Fig. II. Plate LIV* ; but in *April* they are grown much larger, as *A A*, *Fig. I. Plate X.* being entirely deliver'd from their Womb within the Bark, and perfect in their Forms. And we may here again behold how carefully Nature attracts Nourishment to the young Fruit, by timely expanding the Leaves beyond them, which vigorously draw up Nourishment, whilst all the Buds below are entirely naked thereof.

WHAT

WHAT we call the second Crop of Figs, is actually the very first that are produced by the Shoot they grow on; and those which we call the first Crop, are last produced.

THIS at first may appear to be a Paradox, but 'tis actually Matter of Fact, because those Figs which ripen in *September*, are always produced on the same Year's Wood, and nearest to the last Year's Shoots: And as they are produced early in the Spring, when the Shoot is first form'd, they are therefore at their Maturity much sooner than those which are produc'd in the extreme Parts of the Shoots, when their Growths are nearly at an End, and scarcely visible to the naked Eye.

THESE first produced Figs, of the white Kind, do frequently ripen with us, even in the open Air from either Walls or Pails; but the other Kinds very rarely do: These last produced Fruits at the Ends of the Shoots, if not kill'd by the succeeding Winter, make the first Advance in the next Spring, and ripen very early; during which Time Nature is at work, producing new Shoots for new Productions; and so on during the Life of the Tree.

IT has been a Custom among Gardeners, to keep Fig-Trees nail'd close to the Wall, as other Fruit-Trees; but it appears, by many Experiments made, that 'tis entirely wrong, for Experience has prov'd, that those which are suffer'd to grow about two Feet from the Wall, are not only the best Fruits, but are produc'd in much greater Abundance.


THE best Method of Ordering the Fig-Tree, is to nip off their leading Buds of the Branches, about the Middle of *June*, which will accelerate the Ripening of those Fruits which are commonly called the second Crop, and cause great Plenty of young Wood to shoot out all over the Trees, whereby the Whole becomes fruitful, because the Fruits are always produced, as aforesaid, from the last Year's Shoots. But when Fig-Trees are nail'd in at full Lengths, after the old and common Method, their Fruits are always produced at the extreme Parts of the Trees, and all their middle Parts are full of large barren Wood only:

C H A P.



C H A P. XXI.

Of S T R A W B E R R I E S.

 HE several Kinds of Strawberries worth our Notice, are the *Scarlet*, the *Hautboy*, and the *Wood Strawberry*.

THE *Scarlet Strawberry* (*Fig. I. Plate LV.*) is encreased by its own Runners, planted at sixteen or eighteen Inches apart, in Rows about twenty Inches or two Feet apart, and being always kept to single Roots, will produce their Fruits very early. Some plant them nearer together, as about one Foot Square, in Beds three Feet wide, with Allies of eighteen Inches between, and suffer them to run among one another ; but they do not ripen their Fruits so early, nor are they near so large : however, it is necessary that we should have some after this Manner to succeed the others that are first ripe from the single Roots : Ripe *May 10, 1727.*

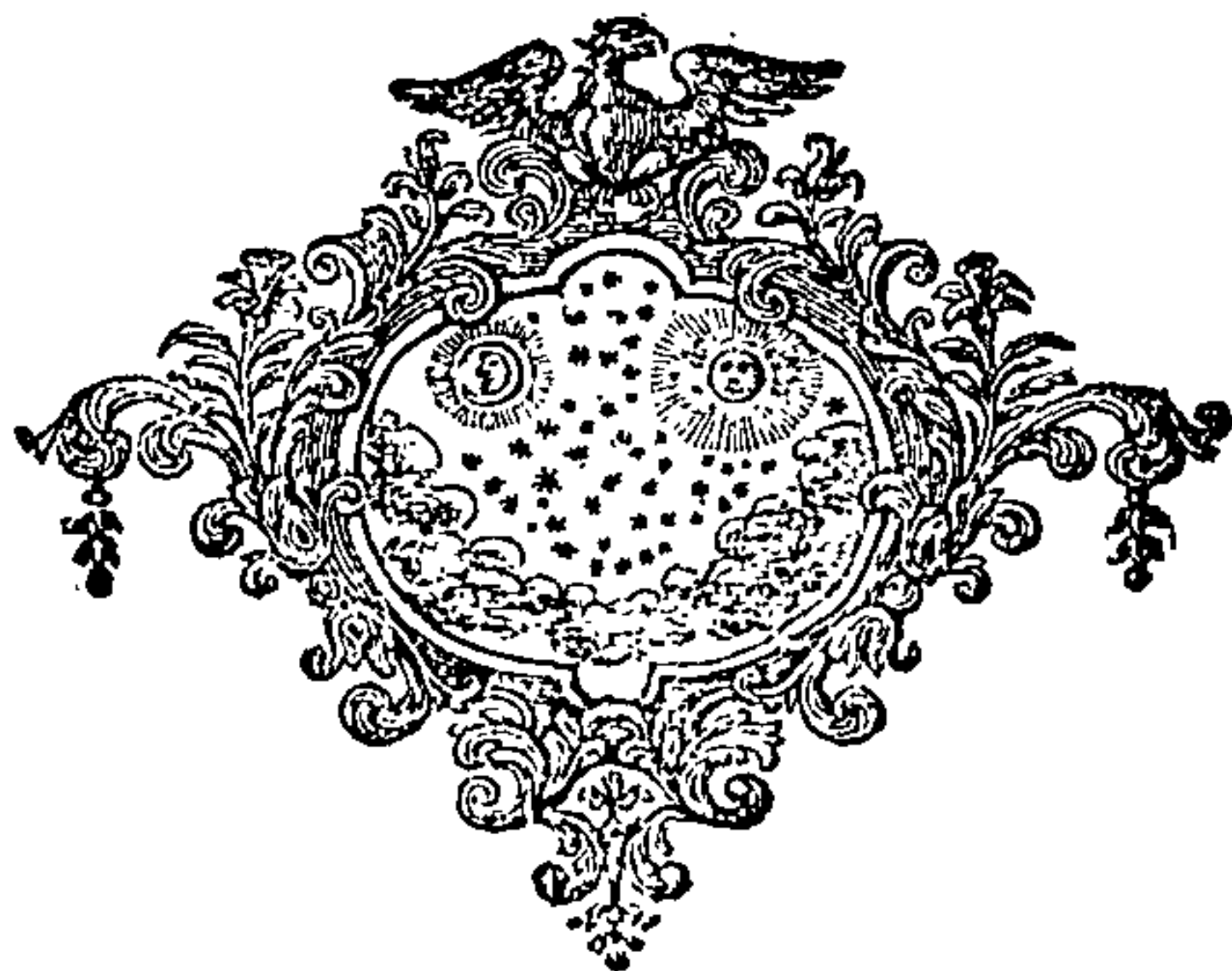
THE *Hautboy Strawberry* (*Fig. III.*) is a most delicious as well as large and beautiful Fruit ; 'tis a great Bearer, and delights in a very rich holding Soil : It produces the best Fruit when planted and kept at the same Distances as the single Roots of the *Scarlet*, and is encreased by its own Runners as the other aforesaid : Ripe *June 1.*

THE *Wood Strawberry* (*Fig. II.*) is another good Fruit, and a very great Bearer, when planted in a fresh and rich Land, and kept well water'd during their Season of Blossoming and Ripening, as indeed should both the other Kinds preceding. This Kind is encreased by Runners, as the others ; but 'tis always found that those which are taken out of Woods and transplanted into Gardens, produce much better and
larger

larger Fruits, than those encreased from Runners taken from old Roots in the Garden : They are generally planted at eight or nine Inches apart, and let run among one another ; but when they are kept to single Roots, they are much larger, sooner ripe, and better tasted.

EVERY fourth Year we should make new Plantations ; for in that Time their Strength and Vigour is exhausted.

BOTH *Scarlet* and *Wood Strawberries* may be raised very early, if their Roots of two Years Growth are planted in small Pots, and put in gentle Hot Beds in *January*, giving them moderate Waterings, with Water whose Crudity is before taken off by gentle warming, and all the Air that can be, so as to keep out cold Winds and Frosts.





C H A P. XXII.

Of R A S B E R R I E S.



WE have but three Kinds of Raspberries in *England*, viz. The *White*, the *Red*, and the *Purple* : The Wood of the *White* and *Red* is of a bright Colour, and almost smooth ; but that of the *Purple* is a dark Brown, and very thick set with small prickly Excrescences.

THEY are all propagated by Suckers, which spontaneously spring up in the Summer, and are planted in the Autumn following : They in general delight in clean fresh Land, being planted in Rows about eighteen Inches apart, and each Row four Feet asunder. Some Gardeners, for want of knowing the Nature of the Fruit, let them run very thick together in the Rows, which is never so well as when they are kept to single Roots.

WHEN we prune the Roots of Raspberries at the Time of Planting, we should carefully preserve their young Buds, which shoot out exactly even with the Surface of the Ground, for it is from those Buds that the next Branches are produc'd, and when they are broken off before planting, they never live longer than the first Summer after planting : For as soon as the Branches of all the several Kinds have produced their Fruits, they immediately perish.

BUT that we may not by these annual Decays, be wholly destitute of Wood for further Supplies, Nature does therefore produce young vigorous Shoots, whilst those of the last Year are bringing their Fruits to
Maturity ;

Maturity ; which Shoots should, in the End of *August* following, be pruned, or cut off, about one Foot from their extreme Parts.

N. B. *THE* dead Wood is easiest broken out in Frosty Weather.

I NEED not give my self the Trouble of informing the Gardener that he should dig among his Raspberries very early in the Winter, any more than to keep them perfectly clean in the Summer from Weeds, Suckers, &c. since every one who takes Pleasure in his Business can best see when those Works are most proper to be done.

THE Scarlet Raspberry (Fig. V. Plate LVI.) is the most common, and first ripe *June* 1, 1727 ; 'tis a very fragrant pleasant Fruit, and a great Bearer. The *White Raspberry* mix'd with the *Red*, makes a beautiful Appearance at the Table, and therefore we must not fail of having some of them for that Purpose, notwithstanding that they are not in such great Esteem as the *Scarlet*.

THE Purple Raspberry hath a pleasant Acidity in its Taste, and is something later in Ripening than either of the other two, for which Reason 'tis much esteem'd for Preserving.





C H A P. XXIII.

Of Gooseberries and Currants; or Corinthians, so called from Corinthia whence they first came.

WE have several Kinds of Gooseberries in *England* which are very good, but the most valuable are the *Old Red*, (Fig. I. Plate LVI.) the first ripe, and almost lost in *England*; the *Champaine*, Fig. II. the *White Dutch*, Fig. III. the *Amber Gooseberry*, Fig. IV. the *Walnut Gooseberry*, the *Rumbulon* and the *Damson Berry*; which are in general produc'd by Slips or Suckers taken from the Roots of old Trees, and planted at three Feet apart in Rows, and four Feet asunder. The best Method of Ordering Gooseberries, is to keep them open in the Middle, like Dwarf Fruit-Trees, with the extreme Parts of their Shoots clipp'd every Year, and the old Wood constantly cut away, as young comes up to succeed.


THE *Red* and *White Dutch Currants*, are propagated as Gooseberries, and should be order'd in the same Manner, to have good Fruits: But I think that if we were to plant some few of the *White Dutch* against a South, or South-East Wall, they would be much improved thereby. And when we desire to have either *Red* or *White* very late in the Season, we should plant some Part of our North-Walls with them; which, being kept thin in Wood, will produce very beautiful large Bunches of pleasant Fruits.

C H A P.



C H A P. XXIV.

Of the Black M U L B E R R Y.

HE *Black Mulberry*, (*Fig. IV. Plate LVII.*) being the only Mulberry that we propagate in *England* for the Sake of the Fruits ; I shall therefore silently pass over all the other Kinds, since they are more suitable to the Tastes of some Botanists, who delight in Varieties of many useless and unprofitable Plants, than to curious Propagators of advantageous Fruits.

THE most expeditious Method of raising this Kind of Mulberry, is by Layers, which should be laid down in *October* at least eighteen Inches apart, that a free Air may be continually circulating about them ; and there remain upon the Stools full two Years after, before they are taken away, that thereby they may be well rooted, when we come to take them up for transplanting into the Nursery.

THE Distances that they are planted at in the Nursery, should not be nearer than two Feet and a half, or three Feet, and not nine Inches or a Foot as is usually done, whereby they have not half enough Air to perspire in, and consequently are greatly injur'd thereby.

THE Leaves of the Mulberry being very large and heavy, cause their leading Shoots to bow downwards, and thereby grow crooked : Therefore to prevent such deform'd Growths, we should place strait Stakes, or Arbour Poles, by the Side of every Plant, and thereto tie their leading Shoots as they arise.

WE should also displace all the lateral Buds as they appear, that the whole Nourishment may be fully employ'd in the Support of the Stems only.

WHEN our Plants are risen to five or six Feet high, we must prune off their leading Shoots, to cause their upper lateral Buds to break out into divers Branches, with which their Heads are form'd.

THERE is a Kind of *Black Mulberry*, which produces great Quantities of Katkins in *May*, (as *Fig. VIII. Plate LVIII, LIX.*) and very few Fruits ; which, when discover'd, should be either budded or grafted with the true bearing Kind.

IF we observe how these Fruits are produc'd, we may see what a wonderful Provision Nature has made for their Support and Protection, by placing of Leaves immediately over the Fruits, which do not only attract and imbibe Nourishment from Dews, Rains, &c. and perspire away the Crudities thereof, but protect them during their Growth from the Injuries of Heat and Cold.

THOSE Fruits which are produced this Year, were form'd in the Buds in the last Year ; for if in the Depth of Winter we slit the Bud of a Mulberry from its Apex down its Axis to the Base, we may with the naked Eye discover the young Fruit in its Matrix, carefully wrapt up in its tender Leaves, which, with great Force, expand themselves with the Fruits when they first appear in *May*, as *Fig. IV. Plate LIX.*





C H A P. XXV.

Of PHILBERTS, WALNUTS, and BARBERRIES.

WE have two Kinds of Philberts, *viz.* the *Red* and the *White*, which last is the most esteem'd by the Curious : They are both propagated by Suckers or Layers, and make very handsome Hedges in our Kitchen and Fruit-Gardens.

THERE is also a larger Sort, called the *Cob-Nut*, (*Fig. III. Plate LVII.*) which makes very handsome Standard-Tree : The Nut is much larger than either of the Philberts, very sweet, and a good Bearer.

THE *Hazel Nut*, (*Fig. II.*) is a pleasant Fruit when well ripen'd ; and tho' it is not worth our while to make Plantations thereof in our Fruit-Gardens, yet in the Quarters of our Wilderness they are very beautiful and advantageous.

WALNUTS are very profitable in their Nuts, as well as their Timber, when largely grown. We have a very great Variety of Kinds : There is one very large Sort, (*Fig. III, V. Plate LVIII, LIX.*) called the *French Walnut*, best for Pickling, because when Seasons are very wet and cold, 'tis very seldom they ripen with us.

THE *English Walnuts* differ very much in their Qualities, some being very small, (as *Fig. XI.*) and thin shell'd ; others of the same Magnitude and very thick shell'd : Then there's other Kinds of the
Magnitude

Magnitude of *Fig.* IX, X. some of which are good, and others worth nothing. And as they are all rais'd from Nuts, which, like many other Seeds, often degenerate from the Mother-Tree, we cannot be certain of our Kinds, unless we are so Curious as to Bud our Trees, when largely grown, with Kinds that we know are good.

BARBERRIES are propagated by Suckers or Layers : There are two Kinds, the one with Stones, the other without Stones, but the Form of their Leaves and Fruits are alike, as represented in *Fig.* VI. *Plate* LXXIII. That Sort without Stones is the most valuable for Use : It makes a very handsome Hedge in the Fruit or Kitchen-Garden, and very good Fence against Cattle, &c.





CHAP. XXVI.

Of PEARS and QUINCES.

PEAR-TREES differ very much in their Time and Manner of producing Fruits : Some Kinds produce their Fruits on the extreme Part of the same Year's Wood, as Mr. *Hill's* double bearing Pear of *Tedington*, (*Fig. IV. Plate LXIII.*) ; others at the Extremity of the Branches also, but upon the last Year's Wood ; and lastly, others upon Branches of three Years old, and sometimes longer, according to the more or less Luxuriancy of the Tree : But for the Generality most of our best Kinds of Pears are first produced upon Branches of three Years Growth, which, if skilfully order'd, continue fertile many Years afterwards. Now since that the annual Shoots of such Kinds of Pears are in the second Year preparing themselves to produce Fruits in the third Year ; therefore all such Kinds should be well furnish'd with those several Sorts of Wood, that, by having a sufficient Quantity thereof, we may be always furnish'd with fruitful Branches to succeed those that become barren by Time.

THIS is exhibited in *Plate LX.* where *Fig. I.* is a true Representation of the last Year's Shoot of the *Virgoulee Pear*, with its *Coursons*, or Spurs, P M O N, from whence the Fruits are produc'd in the third Year. S T V are Leaf-Buds, which are placed to attract Nourishment to the *Coursons*, and perspire away the Crudities thereof.

THOSE *Coursons* P M O N must be shorten'd at the next Season of Pruning after they are produc'd, (as E F G, *Fig. II.*) which will, in the second Year, cause them to produce many Buds, as *b c f h*, that in

one Year after, are very much dilated, and prepared for producing Blossoms in the third Year : And being arrived unto this fruitful State, (as *Fig. III.*) they immediately expand themselves into Blossoms and Leaves, (as *Fig. I, II, III, IV, V. Plate II, III.*)

AND again, after the third Year, when their *Coursons* or Spurs are become fruitful, Nature does every Year produce new Buds to succeed those which are bearing Fruits : For whilst the Pear was coming to its Maturity at X, *Fig. III.* the Buds *l l* were preparing themselves to produce Blossoms in the following Spring, and at the same Time Nature produced the Bud P to succeed those at *l l* ; and so on during the Life of the Tree.

IT very often happens that the Branches of Pear-Trees produce luxuriant Shoots, which being prun'd in *June* within an Inch and half of the Branch from whence it sprung, will in the Autumn produce an Autumn Shoot, with some Buds disposed for Fruit also. Thus K, *Fig. III.* which shooting with great Luxuriancy, was prun'd at K in *June*, and afterwards produced the Autumn Shoot M L, with the two bearing Buds *i i* also. But at the following pruning Season those Autumn Shoots must be entirely displaced.

WHEN the Luxuriancy of Pear-Trees is so very great as not to be check'd with Pruning, we must either displace one or more of their Roots, (and particularly those that grow downright, if any be) or disbark in part the lower Parts of such luxuriant Branches, which will prevent the Sap from rising in too great a Quantity ; for 'tis the too great Quantity of Nourishment that is the Cause of Luxuriancy.

WHEN we prune the Branches of Summer Pears, we should observe the Nature of their Buds ; for (as it has been before said) many Kinds produce their Fruits at the Extremity of their last Year's Shoots, which must be always nail'd in at full Length, or otherwise perhaps the Trees may not produce one single Pear in twenty Years Time.

ALL Summer and Autumn Pears will ripen very well upon Dwarfs and *Espaliers* ; but our Winter Fruits should have the very best Walls and Aspects we can afford them.

THE

THE several Kinds of Pears exhibited in *Plates* LXI to LXXII inclusive, are in general of the very best Kinds, as well for Stewing, Baking, &c. as for the Table: And as I have here truly represented the exact Forms and Magnitudes of their Leaves and Fruits in their natural Colours, and as their Seasons of Ripening and Keeping are exhibited in the following Table; there needs no more to be said of their several Descriptions: I therefore refer you to them severally, as they are delineated in the following Plates.

An Alphabetical TABLE of the best Kinds of PEARS in England, exhibiting their Seasons of Gathering, Ripening, and Duration.

	When to be gather'd.	Eatable.	Duration.	N ^o of Plate where each is exhibited.
Ambret - Fig. IV.	Sept. 20,	Dec. & Jan	February —	LXVI.
St. Andrew - III.	Sept. 20,	—	—	LXXII.
Bordine Musk - I.	June 30,	June 30,	But a small Duration	LXI.
Blanquet Petit III.	Aug. 5,	When gather'd	But a small Duration	LXI.
Beziderry - III.	Sept. 20,	—	—	LXVI.
Buree de Roy III.	Sept. 10,	When gather'd	To the End of Octob.	LXIV.
Buree Brown VI.	Sept. 10,	When gather'd	To the End of Octob.	LXIV.
Buree Winter II.	Sept. 20,	February	April —	LXX.
Bergamot Winter I.	Sept. 10,	—	—	LXVII.
Bergamot Common I.	Aug. 20,	{ A Day or 2 } { after gathr. }	About one Month } after gathering - }	LXV.
Bergamot Bugy V.	Sept. 20,	—	—	LXVI.
Ditto Swifs VIII.	Sept. 20,	Oct. 10,	Two or three Weeks	LXIII.
Ditto Hamdens III.	Aug. 30,	When gather'd	Two or three Weeks	LXV.
Bon-cretien Sum. II.	Aug. 12,	{ A Day or 2 } { after gathr. }	Three Weeks or a Mon.	LXV.
Ditto Autumn VI.	Aug. 20,	Soon aft' gathr.	About six Weeks	LXIV.
Ditto Golden - I.	Sept. 20,	November	To the End of Feb.	LXVIII.
Ditto Winter - III.	Sept. 30,	January	To the End of March	LXVIII.
Ditto Spanish - II.	Sept. 30,	—	—	LXVIII.
Catherine Royal V.	July 25,	Soon aft' gathr.	But a small Duration	LXII.
Catherine Queen V.	July 30,	Soon aft' gathr.	But a small Duration	LXI.

Crahan

		When to be gather'd.	Eatable.	Duration.	N ^o of Plate where each is exhibited.
Craſan - Fig. IV.	Sept. 20,	Middle of Oct.	{ About one Month } { after being eatable }	LXV.	
Chafferie - I.	Sept. 20,	November —	Until January —	LXX.	
Colmar - III.	Sept. 30,	December —	Until the End of Jan.	LXVII.	
Cuiſſe Madam - III.	July 10,	{ A Day or 2 } { aft' gather'd }	Three Weeks —	LXI.	
Double Bloſſom II.	Sept. 30,	December -	Until April —	LXXII.	
Doyenne - VII.	Sept. 30,	November -	January —	LXIII.	
Epine d'Hyver VI.	Sept. 20,	December -	January —	LXVII.	
Green Chizel - II.	July 20,	When gather'd	But very ſhort —	LXII.	
St. Germain - II.	Sept. 20,	November —	January —	LXVI.	
Mr. Hill's 1 ^{ſt} Crop II.	Aug. 24,	When gather'd	But very ſhort —	LXIII.	
Second - IV.	Sept. 30,	When gather'd	About a Fortnight —	LXIII.	
Jargonel - IV.	July 10,	When gather'd	About a Fortnight —	LXI.	
Lombard Pear - I.	July 25,	When gather'd	About a Fortnight —	LXIV.	
Lanſac - V.	Sept. 30,	November -	January, February	LXVII.	
Martin Sec. - I.	Sept. 30,	December -	February, March —	LXXII.	
Meſſire John - I.	Sept. 30,	Soon aft' gathr.	About one Month	LXIV.	
Marquiſs - IV.	Sept. 30,	November -	January —	LXVIII.	
St. Michael - III.	Aug. 8,	{ The Day } { 'tis ripe - }	Two Days at moſt	LXXII.	
Ruſſelet Petit - II.	Aug. 24,	When gather'd	About ten Days —	LXIV.	
Ruſſelet Groſs - IV.	Aug. 24,	When gather'd	About three Weeks	LXV.	
Royal d'Hyver IV.	Sept. 30,	December —	January, February	LXVII.	
Roſe d'Ete - VI.	July 17,	When gather'd	About three Weeks	LXI.	
Sugart Vert - I.	Sept. 5,	When gather'd	Three Weeks or a Mon.	LXIII.	
Swans Egg - IV.	Sept. 20,	Soon aft' gathr.	- - -	LXIV.	
Salviati - V.	Sept. 20,	Ditto -	15 or 20 Days —	LXIV.	
Sattin Pear - VI.	Sept. 30,	Ditto -	November, December	LXVI.	
Vermillion - I.	July 17,	Ditto -	About a Fortnight —	LXII.	
Virgoule - II.	Sept. 20,	Nov. Dec. -	End of January —	LXVII.	
Vert Longue - V. } Ditto, Strip'd VI. }	Sept. 20,	Soon aft' gathr.	Three Weeks or a Mon.	LXIII.	
Windſor - II.	July 10,	{ Soon after } { gather'd }	About three Weeks	LXI.	

The best Pears for Baking, Stewing, &c. are,

The Black Pear of Worcester, Fig. II. Plate LXXI.

Cadillac, Fig. IV. Plate LXXI.

Donville, Ronville, Fig. IV, VI. Plate LXX.

Pear-Lewis, Fig. III. Plate LXX.

Pickering's Warden, and Pound Pear, Plate LXXI.

English Warden, Plate LXXII. and St. Francis, Fig. V. Plate LXX.

QUINCES are best when grafted upon their own Stocks.

THE best Kind is the *Portugal Pear Quince*, (Fig. I. Plate LXXIII.) next to which is the *Portugal Apple Quince*, (Fig. II.); and lastly, the very worst of all is the *English Quince*, (Fig. III.)



C H A P. XXVII.

Of A P P L E S.



APPLES are in general produc'd on Wood of two Years growth, and require as much Air about their Branches to perspire in, as any other Kind of Tree; therefore if they are but allow'd sufficient Air, and their Positions nearly horizontal, they require no further Care.

M m

THE

THE best Kinds worth our Notice, for the Table and Kitchen, are the following, *viz.*

	<i>Fig.</i>	<i>Plate.</i>		<i>Fig.</i>	<i>Plate.</i>
* API	IV.	LXXV.	KITCHEN APPLE		
* BOST APPLE fr' <i>Han.</i>	VI.	LXXVII.	KENTISH PIPPIN	VI.	LXXIX.
CODLING	III.	LXXIV.	KENTISH RENNET	III.	LXXIX.
* CORPENDUE	II.	LXXV.	LISTNING, or JULY AP.	V.	LXXIV.
* CALVILE <i>Acoute</i>	I.	LXXVIII.	MARGARET APPLE	I.	LXXIV.
* CALVILE <i>Red</i>	III.	LXXV.	* MONSTROUS REN.	III.	LXXVIII.
* CALVILE <i>Royal</i>	VI.	LXXV.	* MAUCOAN	V.	LXXV.
* FRENCH PIPPIN	VI.	LXXVI.	* NON-PAREIL	IV.	LXXIX.
FRENCH RENNET	III.	LXXVI.	PEAR RUSSET APPLE	V.	LXXVII.
* FENELLET	I.	LXXV.	* PEARMAN <i>Loans</i>	II.	LXXVI.
* FRANCATU	V.	LXXVI.	PICKERING'S PEARM.	VII.	LXXVII.
* GOLDEN RENNET	VI.	LXXIV.	POME-ROY	II.	LXXIX.
* GOLDEN PIPPIN	VII.	LXXIV.	RUSSETING		
* HOLLAND PIPPIN	I.	LXXIX.	RUSSET <i>Golden Pip.</i>	V.	LXXIX.
* JERUSALEM APPLE	IV.	LXXVI.	RUSSET WHEELERS		
JUNITING	II.	LXXIV.	STONE PIPPIN	IV.	LXXVII.
* JUNE APPLE	VI.	LXXVIII.	SPENCER PIPPIN	V.	LXXVIII.
KIRTON PIPPIN	IV.	LXXIV.	WINTER PEARMAN	IV.	LXXVIII.

N. B. *THOSE Fruits marked thus * are very beautiful when Grafted upon Paradise Stocks, and planted in Pots, Borders, &c.*

THE Characters of the several Cyder-Fruits of *Herefordshire*, and many other Countries famous for that Liquor, being in general much inferior to four Kinds sent me from *Pynes* near *Exeter* in *Devonshire*, by the Honourable *Hugh Stafford*, the *Stire Apple* excepted, which I have not yet seen ; I shall therefore omit their Descriptions, and in lieu thereof give the following Account of those Fruits, as I receiv'd it from that worthy Gentleman.

A Curious



A
Curious ACCOUNT
Of the most Valuable
CYDER-FRUITS
OF
DEVONSHIRE.

TO MR. BATTY LANGLEY at *Twickenham.*

S I R,



SINCE you have seen the *Royal Wilding Apple* itself, (*Plate LXXVII.*) which is so very much celebrated (and so very deservedly) in our County, the History of its being first taken Notice of, which is fresh in every Body's Memory, may not perhaps be unacceptable to you. The single and only Tree from which the Apple was first propagated, is a very tall, fair, and stout one, I believe about twenty Feet high : It stands in a very little Quillet (as we call it) of Gardening, adjoining to the Road that leadeth from *Exeter* to *Oakhampton*, (the Post Way) in the Parish of *St. Thomas*, but near the Borders of another Parish called *Whitstone* : A Walk of a Mile from *Exeter* will furnish any one, who hath such a Curiosity, with a Sight of it.

IT

IT appears to be properly a *Wilding*, that is, a Tree rais'd from the *Kernel* of some other Apple, without having been ever *Grafted*, and (what seems well worthy being observ'd) hath, in all probability, stood there much more than seventy Years ; for two antient Persons of the neighbouring Parish of *Whitstone*, who died each of them *several Years* since, aged upward of the Number of Years now mention'd, declar'd, That when they were Boys, and first went the Road, it was not only growing there at that time, but, what is very well worth Notice, was *then* as tall and stout as it now appears, (and we may reasonably suppose that was when they were each about 12 or 13 Years of Age) ; nor do there appear at this time any Marks of *Decay* upon it, as far as I took notice.

IT is a very *constant* and *plentiful* Bearer every other Year, and then usually produceth Apples enow to make one of our Hogsheds of Cyder, which contains 64 Wine Gallons ; and this was one Occasion of its being first taken Notice of, and yields an History which I believe no other Tree ever did : For the little Cot House to which it belongs, together with the little Quillet (as aforesaid) in which it stands, being several Years since *mortgaged* for ten Pounds, the Fruit of *this Tree alone*, in a Course of some Years, freed the House and Garden, and its *more valuable Self*, from that Burden which is wont to involve all other Estates in one common Ruin.

Mr. *FRANCIS OLIVER* (a Gentleman of the Neighbourhood, and, if I mistake not, the Gentleman who had the *Mortgage* just now mention'd) was one of the first Persons about *Exeter* that affected the *Rough Cyder*, and for that Reason purchased the Fruit of this Tree every bearing Year : However, I cannot learn that he ever made it *separate* and *apart*, but *mix'd* it with other Apples, which notwithstanding added an *Advantage* to his Cyder, with all those who had any true Relish for that Liquor.

WHETHER it was *this* or any *other* Motive, I cannot particularly say, that brought on the more happy Experiment on this Apple. But the Reverend Mr. *Robert Woolcombe*, (Rector of *Whitstone*, the Parish before mention'd) who used to amuse himself with a *Nursery*, put on some

some Heads of this *Wilding* ; and a few Years after being out in his Nursery, about *March*, a Person came there to him on some Business, and finding something roll under his Foot, took it up, and it proved an *Apple* of this *precious Fruit*, which Mr. *Woolcombe* receiving from him, finding it perfectly *sound*, after it had lain in the long Grass and Stroyle of the Nursery, thro' all the *Rain*, *Frost*, and *Snow* of the foregoing Winter, thought it must be a Fruit of more than common Value : And having tasted it, and found the Juices, not only in a most perfect *Soundness* and *Quickness*, but such likewise as seem'd to promise both the *Body*, *Roughness*, and *Flavour* that wise Cyder-Drinkers in *Devon* now begin to desire ; he observed the Graft from which it had fallen, and searching about found some more of the Apples, and all of the same *Soundness* ; upon which, without any Hesitation, he resolv'd to graft some Numbers of them ; which he accordingly did, but waited with Impatience for the Experiment, which you know must be the Course of some Years : They came at length, and, if I mistake not, his first Reward was a small Barrel of the Juice ; but his much greater was the Excellency of it, which far exceeded all his Expectations.

Mr. *WOOLCOMBE* was not a little pleased with it, and talked of it in all Conversations ; it created *Amusement* at first, but when Time produced an Hogshead of it, from *Raillery* it came to *Seriousness*, and every one from *Laughter* fell to *Admiration*. In the mean time he had thought of a *Name* for his *British Wine*, and as it appear'd to be in the original Tree a Fruit not Grafted, he retained the Name of *Wilding* ; and, as he thought it superior to all others, so he gave a Title of Sovereignty to it ; and hence the triumphant *Royal Wilding*, Fig. I. Plate LXXVII.

THIS, if I rightly remember, was about 16 Years since : The Gentlemen of our County are now busy almost every where in promoting it, and some of the *wiser* Farmers and Justment-Holders : but we have not yet (for Time you know must do that) enough for Sale : I have known five Guineas refused for one of our Hogsheads of it, tho' the common Cyder goeth for Twenty Shillings, and the *South-Ham* from Twenty-five to Thirty.

I MUST add, that Mr. *Woolcombe* hath reserved some of them for Hoard ; I have tasted the Tarts of them, and they come nearer to the *Quince* than any other Tart I ever eat of.

WHERE-EVER it hath been tried as yet, the Juices are perfectly good, (but *better* in some Soils than others) and when the Gentlemen of *South-Hams* will condescend to give them a Place in their Orchards, they will undoubtedly exceed us in this Liquor, because we must yield to them in the Apple Soil : But it is happy for us that at present they are so wrapt up in their own *Sufficiency*, that they do not entertain any Thoughts of fetching Apples from us ; and when they shall, it must be another twenty Years before they can do any thing to Purpose, tho' some of their more thinking Gentlemen I am told begin to get some of them transported thither, (by Night you may suppose, partly for Shame, and partly for Fear of being mobbed by their Neighbours) and will, I am well assured, much rejoice in the Production.

I AM personally acquainted with Mr. *Woolcombe*, and if I may be mistaken in some of the *Circumstances* of the History, (as it is here related) I can promise you I have the *Substance* from his own Mouth, and am so perfectly possessed with a Persuasion of the Excellency of the Cyder, that I doubt not in the Course of twenty Years more, when Gentlemen shall have furnish'd themselves with the Fruit, and the Farmers shall have fallen in with it also, this County will be render'd abundantly happy in it ; and therefore I could really wish, that whenever the *Original* Tree decayeth, (if it *ever* shall, tho I assure my self the Fruit will *never* be out of Use) his Statue (carved out of the Stump, but by the finest Hand, and overlaid with Gold) may be erected near the publick Road in the Place of it, at the common Charge of the County of *Devon*.

WHAT other Fruits there may be *in Nature*, neither you nor I can say, because you well know whenever we sow the Kernels of any Apples, we have always *Varieties* of *new* and *unknown* Apples produced ; but I will venture to affirm I never tasted any Cyder equal to it, (not all the genuine *Hereford* I ever drank) that of the *Whitfour* (*Fig. III. Plate LXXVII.*)
only

only excepted, (of which more hereafter) and as yet the Controversy betwixt *That* and the *Royal Wilding* continues undetermin'd.

THE Colour of the *Royal Wilding*, without any Assistance of *Art* in any Kind, is a bright *Yellowish* rather than a *Redish Beerish* Tincture; The other Qualities are a *Noble Body*, an *Excellent Bitter*, a *Delicate* (excuse the Expression) *Roughness*, and a fine *Vinous Flavour*: All the other Qualities you may meet with in some of the best of our *South-Ham* Cyder, but the last is peculiar to the *Royal Wilding* and the *Whitfour* only, and you will in vain look for it in any other. .

BEFORE I yet leave the *Royal Wilding*, I must further let you know, that it is sometimes called (tho' no less *injuriously* than *unaccurately*) the *Red-Hill-Crab*, from the Name of that Part of the *Highway* near which the original Tree stands, which is called *Red-Hill*.

THIS Name is *injurious*, because *Crab* (as yet) is used among us in a Sense of *Diminution*, at least, if not of *Reproach*; or was it not so, it is plain there is nothing in that Name which suggests the *superlative* Excellency of the Fruit; whereas the Title of *Royal Wilding* carrieth in its very Sound, as it ought to do, the Preference which it deservedly hath to all other Cyder-Fruit yet discover'd.

AND this other Name, as I said, is also *unaccurate*, because I rather take it for an *Apple* than a *Crab* (of which, however, since you have them before you, your self may judge): For I must further let you know, that tho' we frequently take the Word *Apple* for the whole Kind, (as we call the whole Kind *Horses*, including as well *Mares* as *Horses*, more strictly speaking) yet when we speak more *exactly*, we understand the Word *Apple* in *Opposition* and *Contradiction* to the *Crab*, which most commonly is a very *small, harsh, yellow* Fruit, and ordinarily groweth in our *Hedge-Rows*, tho' they make very large and very lasting Trees; however, I have seen one Sort of this *very small harsh* Fruit finely streak'd with *red* Outside; and in my Neighbourhood there is one Tree of another Kind of them, which is *red* both Inside and Outside, and it is the only one of the Kind I ever saw or heard of.

WHILST

WHIST I have thus had occasion to mention the *Crabs*, it may not be improper to inform you that the Excellence of them for Cyder was never commonly (if at all) known until within these late Years: They were formerly suffer'd to fall and *be eaten by the Hogs*, when they would eat them, (which was not always, because of their Harshness) or else to *rot* upon the Ground: But they are now so well understood, that they sell at a much greater Value than the *common* Apples, and we begin to propagate them by Grafting in our Orchards, tho', in my Opinion, they do much better as an *Ingredient* in Cyder, when mix'd with other Fruit, than when pounded by *themselves*. The first Discovery of their Usefulness was the pounding of some of them for *Vinegar*, which, when tasted, proved much better Cyder than any of the *common* Cyder of our Country.

HOWEVER, there is a much smaller Sort of Crab with us, not larger than the Top of one's *Thumb*, (and I think never making a *Tree*, but growing only in *Bushes*) which we never put in our Cyder, but use them only to make *Vinegar*.

YOU will not, it may be, think it improper if I take Notice to you in this Place, that Cyder made all of any Sort of *Wildings*, (that is, as I first said of Apples propagated from Kernels, and never grafted upon with any Sort of Fruit, tho' you may graft them on what Stocks you please) is ever found to be excellently good, and much preferable to that made with our *common* Apples. There is a Gentleman in the Neighbourhood of *Exeter*, who hath now large Plantations of them, which furnish him with *admirable Liquor*; but the best of it wants the *delicate* and most *distinguish'd* Flavour of the *Royal Wilding* and *Whitfour*; nor did I ever meet it in any *Wilding*, (nor indeed in any *other* Apple) except in one Sort of *Wilding of my own*, of which I shall say something by-and-by.

I HAVE only to add concerning the *Royal Wilding*, that within these twelve or fourteen Years, I believe more than 200,000 of the Grafts have been propagated in *This* and the *Neighbouring Counties*; and, if I mistake not, I heard about two Years since, that some of them were sent for from *Yorkshire*; and what would you say if they should
be

be transplanted to the *Rhine*, which however is not altogether so *improbable* as you are apt to imagine ; for a Gentleman who carried some of the *Whitfour* with him into *Germany*, (and, as I have before said, no one can say which of the two *exceeds*) assured me, that when he had much celebrated the Glories of his Cyder, a *German*, whose Expectations of this extraordinary Liquor were much raised when he had tasted it, cried out, *He found nothing in it, for it was only like their Rhenish.*

AND thus much for the *Royal Wilding*. I am now to let you know as much as I my self do of its *only* Rival the *Whitfour*, (or *Whitefour*, spell it as you please) of which, however, you will find I have much less to say, than on the other beloved Subject, because I am at some Distance from that Part of our County which chiefly produceth it, and because it seemeth to be in a great measure co-incident with many of the Things I have before told you of the *Royal Wilding*.

THIS is a *small yellow* Apple, which falls very soon : There are *two* or (as others say) *three* Sorts of them, but the best is what they call the *Pancrass Whitfour*, (tho' why so called I cannot tell you) and is the smallest ; there were some of them in my Neighbourhood a great many Years since, and I know not whether they might have been dispersed in some other Part of our County ; but they are the *genuine* Produce of that Part of the County called the *South-Ham*, (bounded by the Rivers *Teing* and *Dart*) and are not yet common in the other Parts of our County, tho' we now begin to promote them as fast as we think we have got *Royal Wildings* enow.

AS far as I can learn they have been long in the *South-Ham*, but until within these eight or ten Years in so bad Reputation, that the Cyder of them sold for *one half* the Value less than the other Cyder, as a Gentleman of that Country (very well acquainted with the Cyder-Knowledge of those Parts) told me.

THE *Qualities* of the Juices are precisely the same with those of the *Royal Wilding*, and so very near one to the other, that, as I have before often suggested, they are perfect *Rivals*, and created such a Contest, as is very uncommon, and of which I was an Ear-Witness. A Gentleman of the *South-Ham* whose *Whitfour* Cyders, for the Year,

were very celebrated, (for our Cyder Vintages, like those of the *Clarets* and *Ports*, are very *different* in *different Years*) and had been drank of by another Gentleman, who was a happy Possessor, and uncontested Lord, *facile Princeps*, of the *Royal Wilding*, met at the House of the latter Gentleman, a Year or two after the fam'd *Royal Wilding*; you may be sure was produc'd, as the best Return for the *Whitfour* that had been tasted at the other Gentleman's : And what was the Contest : Each Gentleman did not contend, as is usual, that his was the *Best* Cyder ; but such was the *Æquilibrium* of the Juices, and such the Generosity of their Breasts, (for finer Gentlemen we have not in our County) that each affirmed his own was the worst ; the Gentleman of the *South-Ham* declared in Favour of the *Royal Wilding*, and the Gentleman of our Parts declared for the *Whitfour*. In the mean time, the Company (which was publick and very numerous) could not decide the Controversy, because (being Gentlemen of the strictest Justice) the *Whitfour* was not then present to *speak for itself* : But those who had tasted each of them, as far as they could judge from the Representations of their *Memories*, remain'd under a perfect Indetermination.

THE Manner in which the *Whitfour* came to shew itself in its true Lustre, was thus, as far as I can learn : Our best and strongest Cyders, and those which have the boldest *Roughness*, (and for any thing I know the Case is the same with *all* Apple Juices) grow *harder* the longer they are permitted to stand on the *Gross-Lyes*, and therefore the sooner they are taken off from them, the more they are *softned* : we therefore chuse to rack them from the *fouler* or *thicker Lyes*, as soon as we perceive they are *separated* in some tolerable Manner, which (according to the fairer or more disturbed Weather) is ordinarily in two, three, or four Days, and the more *soft* you would have your Cyder, the more *frequently* you rack it to three or four Times only ; the weaker Cyder will not bear it above twice.

BY this Method, as far as I can learn, the *Whitfour* was first brought into Repute ; and I have within these ten Days tasted of that Cyder, (brought from the *South-Hams*) made this twelve Months, bottled last Summer, and perfectly *fine*, which was as *sweet* and *mellow* as tho' it had come that Morning from the *Pound* : and under all that *Honey*, it had all the *Roughness* and *Boldness* which is the Glory of our Cyder :
only

only wise People would be more sparing in that first Racking, that they may thereby destroy that *Lasciviousness* which may be acceptable to a *Female* or a *Londoner*, but is ever offensive to a *bold* and *generous West-Saxon*.

WHAT I have now said of *Racking the Whitfour* holds good of all the *other better Cyders* likewise, and is the true Reason of the Advance of the *South-Ham Cyder* into that Reputation which it hath gotten of late Years: A short Account of which will not (it may be) prove unacceptable.

THE *Claret* in which our truly *Loyal* Gentlemen ever drank the *Church* and *King*, was stopp'd from *France* by the ——— *Revolution*: It was impossible they could live without Drink, and as impossible to have it in a *fair Way* (any *other* you know they *always* scorn'd) from *Bordeaux*: They had endured an *half Famine*, (that of Drink) and as *Magister Artis Ingeniique Largitor Venter*, they applied themselves to *improve* the Produce of their *own* Fruit. This of *frequent* Racking was the *happy* and *successful* Thought, by which they found their rougher Fruits so much *mended*, that I make no doubt, if a free Trade with *France* was now again open'd, the Import of the *smaller* Clarets would be abundantly *lessened*, and twenty Years hence, when *Royal Wilding* and *Whitfour* may become ordinarily *vendable*, *Bordeaux* itself may feel the Effects of it.

WHILST I am speaking to you of *Racking*, I must not omit to say, that a Person in my Neighbourhood, who had the *Whitfour* in his Orchard many Years, (tho' either by *mixing* it with *other* Fruits, or for want of the *Talent* of *proclaiming* it, he never contributed towards *raising* its *Reputation*) hath told me, That unless you watch it carefully, and take its first Separation from the grosser Lyes, (which will be in a *very few* Days) it is a difficult Matter ever to get it fine *after*. And this perhaps would be no ill Rule to be observ'd in all the *stronger* Cyders; tho' whether this was his Case in a *single* Year only, (and such Cases I know are frequently to be met with) or whether he *always* found it so, I do not remember that I enquired of him.

WHAT

WHAT I have now said of *Racking*, (which, properly speaking, is drawing it from one *close* Cask to another) may perhaps be as *well*, if not better, practis'd (and I know it to be the Practice of many Gentlemen) by getting a very large *open Vat* or *Kieve*, which will contain a whole Pounding of Cyder, and the *Pummice*, as we call it, (that is, the *grosser Parts* of the *Pulp* of the Apples, which will, tho' *strain'd* at the Pound thro' a Range, *mix* with the Juice) you shall find in less than a Day to rise at the Top, and in a Day or two more at most, to grow very thick ; and as soon as little white *Fermentations* break thro' it, (about the Largeness of the *Top* of your *Finger*) they presently draw it off *under* at a Fisset-Hole ; if you suffer it to continue longer, all the *Head*, which is then become a *thick Crust*, will sink away at the Bottom, and this serves instead of the *first* Racking : But by letting your Cyder continue longer or less Time on these Lyes in the *close* Casks, you may *harden* or *soften* it at your Pleasure, as you likewise may by frequent *after Rackings* ; but this is a Method which the weaker Cyders will not endure, (as is before said) *one* or *two* Rackings at most is all they can bear, they have not Body and Spirit enough to undergo any more such *Expences* as that Operation doth unavoidably create.

THERE is one Thing not yet taken Notice of in these Cyders, which concerns their *Age*, and the Time of their continuing *good*. The most frequent *Commendation* you meet with of other Cyders, is, that they will keep three, four, or (rather than fail) seven Years ; but I must own I never yet tasted any Cyder, but what was *best*, and in the *greatest Perfection*, the *first* Year : I have indeed heard of Cyder, (and particularly some *Crab-Cyder*) which is not *drinkable* the *first* Year, but *mellows* and groweth excellent the *second* or *third* ; but I never had the Pleasure of making the Experiment ; however, (unless there be some such *ill-natur'd* Cyders as are a *Noli me tangere* the first Years) I will venture to say the *Royal Wilding* and *Whitfour* will keep good as long as *any other* ; tho' I must repeat it, they are never *as good* in any of the following Years as they are the first.

LET

LET me, to close the Account of these two Liquors, assure you, that I have heard them *authoritatively* intitled the *Devonshire Stire* ; I have seen *Bordeaux* and even *Burgundy* stand *melancholy* and *neglected* before them ; and I have heard *White Wine* called for to *cool* those Cyders.

AND so much for *Royal Wilding* and *Whitfour*. You desired to be also inform'd of the *Mediate*, or (as our common People pronounce it) *Meadeate*. The Apple itself hath been sent you, and therefore I say nothing of its Size, Figure, &c. only I must tell you (which I should also have said of the *Whitfour*) that it is a very *constant* and *plentiful* Bearer every *other* Year, and maketh a very handsome (tho' no exceeding large) Tree, nor (if I mistake not) is it as liable to *Blights* as most other Trees are.

THE Juices of it have all the *Body* and *Roughness* of the two other Cyders before spoken of, and make good Advances to the same *Golden* Colour ; but, alas ! want the *perfecting* and *distinguishing* Flavour of those Unparallel'ds : Nor when made by itself is it ever (or very rarely if ever, and that surely not without such Art as I could never yet be a Master of) got to be drunk *up*. I did indeed once taste some Cyder sent to a Gentleman for a Present, which was said to be *All* of this Sort, and which might vie with the best *Royal Wilding* or *Whitfour* ; but had I been to talk with the Maker himself, I imagine I should have found there was a Mixture of *other* Fruit with it : This is sure, that by Means of its *Noble Body*, and excellent *Roughness*, it is a most *valuable* Apple, and becomes an excellent *Ingredient* in Cyder, especially discreetly sorted with Fruit of a *brisker* and *quicker* Nature.

IT is commonly said to have its Name from a *Meadow Gate*, near which the original Plant (the happy Parent of this *laudable* Apple) first stood ; for in the vulgar Dialect of our Country, we call a Meadow *Mead*, (I know not how to convey to you the true Sound of that last Spelling) and by the same Way of speaking we call a *Gate* a *Yeate*, (as the Lawyers write *yeoven* for *given*) and these Words put together in our common Pronunciation will afford *Meadyate*, which is easily passed

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into

into *Meadeate*, and that as easily into (what the *better* Sort usually pronounce it) *Mideate*, tho' whether it be the *Fact* or only the *Invitation* and *Facility* of the *Etymology*, that gave occasion to this Account of it, I cannot take upon me to affirm; only I am *more inclin'd* to think the *latter*, because I never hear the *Farmer*, or *Estate*, or *Parish*, or even the Part of the *South-Hams* mention'd, (for 'tis said to be originally of that Country) where this *Tree*, or this *Gate*, or this *Meadow* was, or how long since it begun to be propagated; all which we can point out of the *Royal Wilding*, as you have before seen.

THE Apple hath been long known; it is common in the Orchards of several *Farmers*, (but of more *Gentlemen*) tho' until of late there were but few of those *Farmers* that set any great Value on them.

THESE are the three Sorts of *Apples*, in our County, which do as yet carry the greatest Reputation for Cyder. You desire of me further, an Account of some *Wildings* of *my own*, which yielded a Liquor that was talked of every where, about three Years since; and in that also I shall endeavour to gratify you. They were the Produce of some *Kernels* of the *Red-streak Apples*, which, when fit to be transplanted, I set round two of the Fields near my House, (since turned into Orchards) without ever *Grafting* them: The Generality of them (whether cramp'd by the adjoining Hedges or not, I cannot really say) make but a *small Tree*: the Fruit of them is *various*, mostly very *small*, (as *all Wildings* usually are, but the *smaller* the Apple in Reason, the *better* the Cyder, is a constant Rule among us) and generally *streak'd* with Red, and many of them (I mean the Produce of several of the Trees) not very much *unlike*, for from the Kernels of the *self-same* Apples, you know we have always very *different* Sorts of Fruit.

BESIDES some other *Differences* of *less* Note to be observ'd in these *Wildings*; the Fruit of some few of the Trees is considerably *larger* than that of the *Generality* of the others, (which like most *Wildings* is small) and some of them are more streak'd with Red than others are.

I HAD

I HAD no Opportunity of making a Trial of them by themselves, until the memorable Year 1724. and then they afforded me a whole *Pipe* of the Liquor ; which, when *Racked* and *Fined*, about *February*, to my no small Pleasure plainly, in the Opinion, and to the Admiration of every one as well as my self, ravish'd the Palm from the *Royal Wilding*. It had *every one* of the *Qualities* of that Cyder, and some of them to *greater* and *manifest* Degrees of Excellency ; the *Flavour* of it in particular was *finer* and more *delicate*. A Name was therefore to be thought of for this *young Fondling* ; and it was well (as you will see presently) this Care was taken at *that Time* : A Gentleman consulted on the important Occasion (was well acquainted with Mr. *Woolcombe* before-mention'd) had many Times, to promote Conversation, *rallied* him on the Subject of his new Discovery of the *Royal Wilding*, (of which, however, he was a great Admirer) and was now resolv'd to exceed him in the *Name* of this very Apple, and to leave no Room for him to go *higher*, should he find out any other Apple, or should he be minded to *alter* and *raise* the *Appellation* of the *Royal Wilding* : And for this Purpose first thought of *Imperial Wilding* ; but finding Room yet left for Mr. *Woolcombe*, he proceeded to think of *Cœlestial Wilding* ; and because he thought there might be yet an Ope left for Mr. *Woolcombe* to exceed *that*, he at last settled in *Super-cœlestial*, Fig. II. Plate LXXVIII. and there rested secure, as Mr. *Prior* did in his own Pedigree from *Adam* and *Eve*,

Let Bourbon or Nassau go higher.

NOR are you to be surpriz'd if you think this Title set it above the celebrated *Nectar* which was in those upper Regions formerly drank by the Gods themselves : for beside that, if the Truth was known, I am satisfied none of them ever drank a Drop of such Liquor in their Lives : You are to consider these were *Heathen Gods*, and therefore we did not make the least Scruple to affront them. This you may believe created a *Smile* : but afterward another Gentleman, in Allusion to the Name of my House, (which is *Pyne*) and to the common Story of the *West-India Pyne Apple*, which is said to be the *finest* Fruit in the *World*, and to represent *every other* fine and exquisite *Flavour* that is known, determin'd it should be called the *Pyne Apple* : and by either of these

Names

Names indifferently it is talked of, (for, alas ! it is long since drank out, nor hath any other bountiful Year as yet yielded such a Supply) when Pleasantry and Conversation bring the Remembrance of it on the Table, which will ever be done until some happy Season shall again bring more of the Liquor it self there.

I H A D almost omitted to tell you, that Mr. *Woolcombe* himself was summon'd to the Contest betwixt this *upstart Wilding*, as he thought it, and his own *Royal* one. The Suprize (and even almost *Silence*) with which he was seized at first tasting it, was plainly perceiv'd by every one present, and occasion'd no small Diversion : He did not roundly pronounce it better than the *Royal Wilding*, but he spent a great deal of his *Cyder Knowledge* in shewing the Reasons why it might well be expected that the Juices of this *Collection* of Wildings, should be preferable to that made from any *single* Wilding, so great is the Force of *Truth* : And this was *all* that was *insisted* on (and more than was *expected* from him) at that Time, as well in regard to the Allowances there ought to be made to the *Piety* of being *Fond* and *Tender* of one's *own* Progeny, as to his *real* Merit in having discover'd and promoted that other *admirable* and *most excellent* Apple.

I N the mean time I must now honestly detract from these Triumphs of my *own* Wilding, and let you know why I said it was *happy* that the *Cælestial* Title was assigned to it in the *Juncture* of its being in the *Cask* : for after it was *Bottled*, and the Advance of the Year had rais'd it, the Juices appeared *thinner* than those of the *Royal Wilding*. It partook too much of the *Rarefaction* of those Superior Regions from whence it had luckily before gotten its Name : It continu'd indeed *very excellent* and *admirable* Cyder, but was too *brisk*, or rather, if you will, *frisking*, whilst the *Royal Wilding* preserv'd all its Native *Majesty* and *Solemnity* ; and from that Time was re-establish'd in the *full* and *peaceable* Possession of the *Throne*, to the no small Comfort of Mr. *Woolcombe*.

Y O U will your self take Notice, that the Cyder from *my Wildings* cannot be promoted as the *Royal Wilding* hath been, because this latter being but a *single* Apple, became easily propagated ; whereas to make this Cyder of *mine*, one Graft from each Tree in the *Collection* must be had,

had, and put on : Whether any one of these *singly* would make *such* Cyder, I much question, (that it would make *very good* I do not doubt) nor can I say whether among them there may be *one* or *more*, which, if tried *separately*, might afford a Juice *equal* (or *superior*) to that of any other Apple hitherto known : I have not yet *examined* them so *exactly* as to find any Reason for singling out any of them to make such *Experiment*, or if I had, you know it must be a long Course of Years to discover the Event.

I HAVE lately planted out two Orchards with *Wildings*, from the Kernels (or *Pips* as we call them) of the *Royal Wilding*, but the Trees are so very small, that they have not yet afforded me Opportunity for an *Experiment* : The Fruit that any of them have hitherto shewn, seems to lay a good Foundation for *Expectation*. *Wildings* of one Sort or another, will, for the future, be I believe chiefly cultivated among us ; and would Gentlemen sow the Kernels of the *Red-streak* in particular, as I did, I see not why they might not reasonably promise themselves the *like* Success ; and would they now and then give themselves the Trouble to promote any one of their *Wildings*, that to the *Taste* seemeth to bid fair beyond others of them for excellent Cyder, I know not what *Discoveries* might be made for *New Cyders* ; for who can say that there may not be in the *Fruitful Womb* of *Pomona*, an Offspring that may *equal*, or even *exceed*, the *Royal Wilding* or *Whitfour* themselves, since the Sorts of *new* Apples that are to be raised from *Kernels*, are, as I before suggested, plainly *Numberless*.

TO make this Account of our Cyders as complete as I can, I must in the last Place mention to you *another* Sort, which hath not been heard of among us more than six or seven Years : The Name of it is *Cockagee*, or *Cackagee*, (for the Word, as far as I can learn, is *Irish*, in which I, as well as you, am no Critick) : The Fruit is *originally* from *Ireland*, and the Cyder much valued in that Country : About sixteen or eighteen Years since (if I am rightly informed) it was *first* brought over, and promoted about *Minehead* in *Somersetshire*. Some Gentlemen of that County have got enough of it now to make five, six, or eight Hogsheds a Year of the Cyder ; and such as have to spare from their own Tables, sell, I am told, from four to eight Pounds an Hoghead.

Q q

A GEN-

A GENTLEMAN favour'd me so far as to bring some of the Apples from *Ireland*, but by the time I had an Opportunity of seeing them, they were so decay'd, that I cannot describe them to you. The Cyder is of the *Colour* of *Sherry*, (or rather of *French White Wine*) and every whit as *fine* and *clear*: I have tasted of it from two several Orchards of *Somersetshire*; and the Gentlemen just now mention'd brought some of the *Cyder*, as well as the *Apples*, from *Ireland*: It hath a more *vinous* Taste than any Cyder I ever drank; and as the *Sight* might deceive a *curious* Eye for Wine, so I believe the *Taste* might pass an *incurious* Palate for the *same* Liquor. It seemeth also to be very *spirituous*, and would I believe, if experimented, soon *intoxicate*, but wanting the generous *Roughness*, and even the *fine* and *delicate Flavour*, (notwithstanding its *vinous* Relish) as also the *full Body* of our *Royal Wilding* and *Whitfour*; it is, in my Opinion, (and in that of far the greater Part of those Gentlemen I have ever talked with) by many Degrees *inferior* to those Cyders of our County, and particularly less *acceptable* to the *Palate*, and less *grateful* to the *Stomach*.

I HAVE lately put on some Grafts of them, but not enough (nor have they yet Time enough) to enable me to try what Cyder they will make *with me*. I may perhaps another Year set on more of them, but I assure you for *Curiosity* only, and because the Cyder is talked of; not for any other Use I ever intend to make of them. I am,

Pynes, November
10, 1727.

Your most obliged Friend,

and humble Servant,

HUGH STAFFORD.

F I N I S.

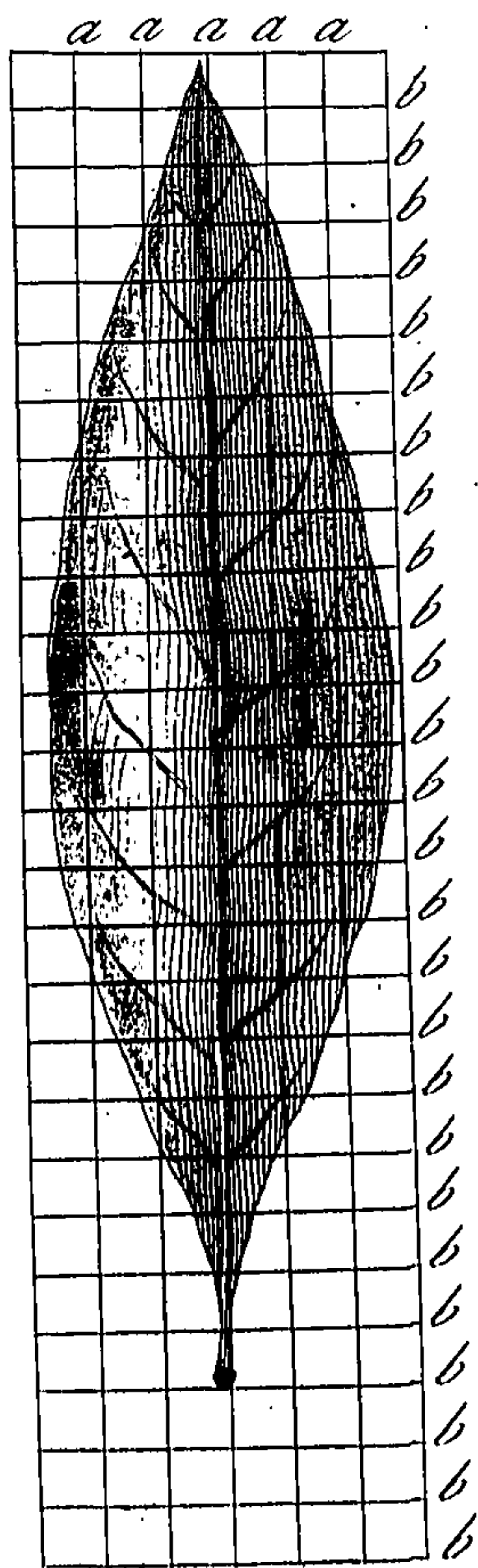
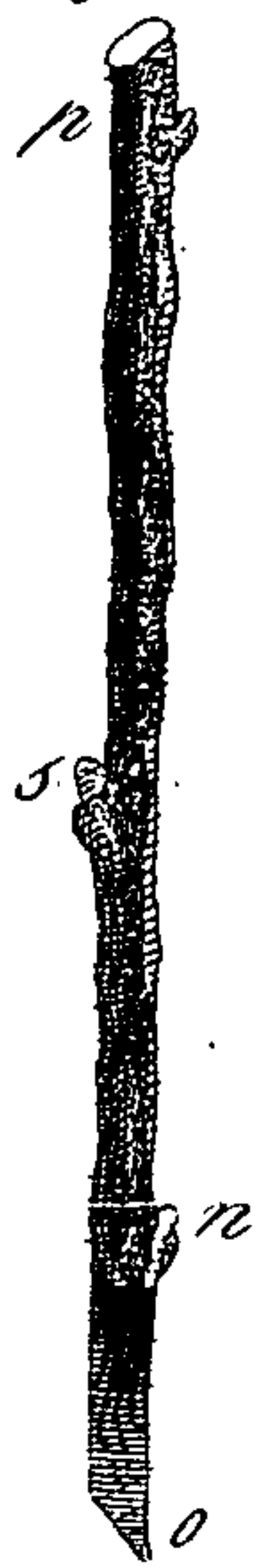


Fig. VII.

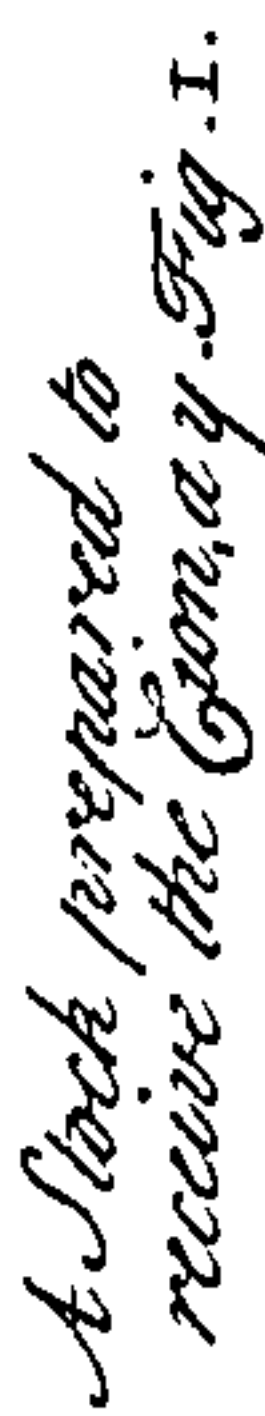
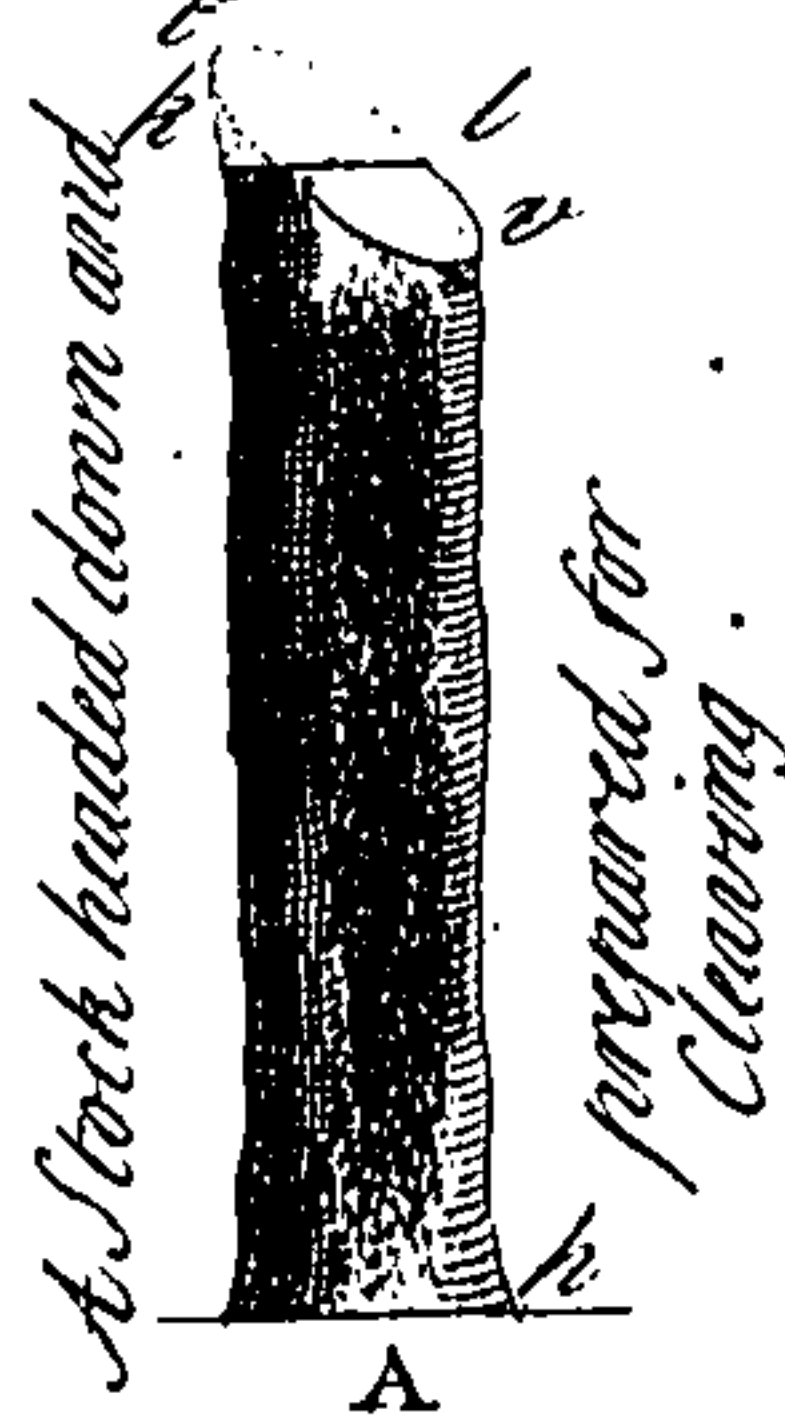


Fig. III.



Van Gucht-Sculpe

Autumn Bergamot
March 26. 1727.

Fig. II.



Jargonel
March 26. 1727.
Fig. I.

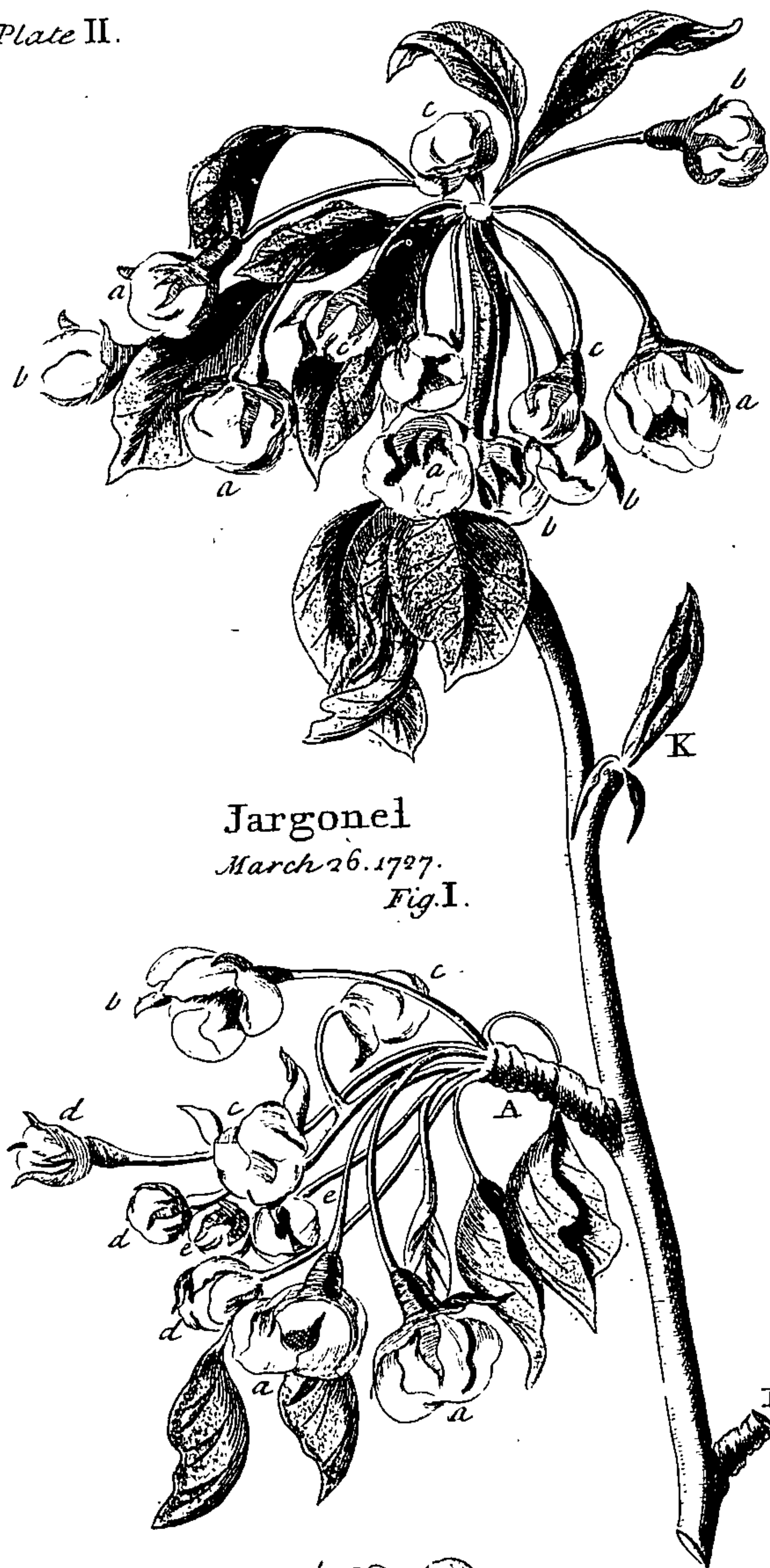


Fig. III

Summer Bergamot
March 26. 1727.

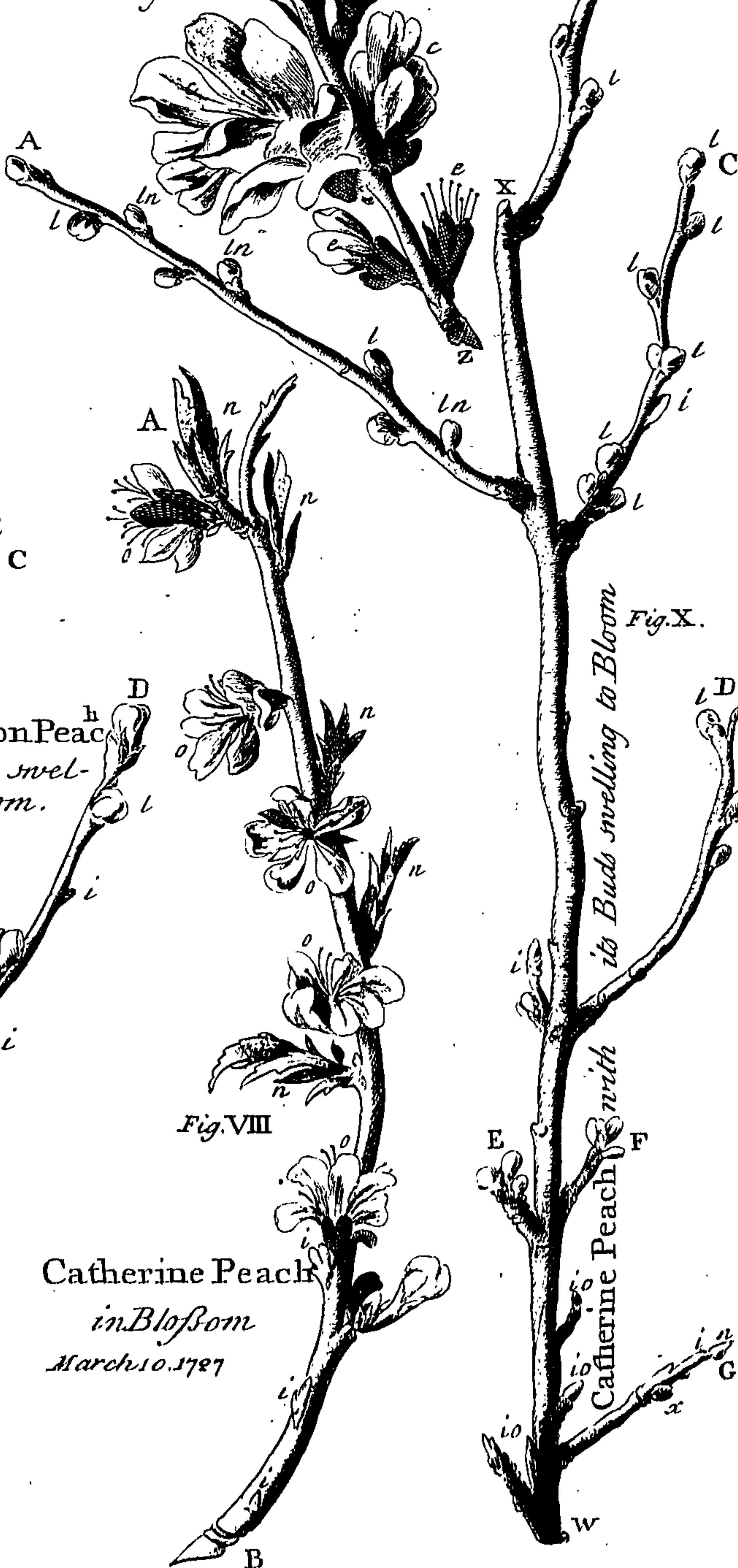


Fig. III.




Winter Buree March 26. 1727.

Mefsire John March 26. 1727

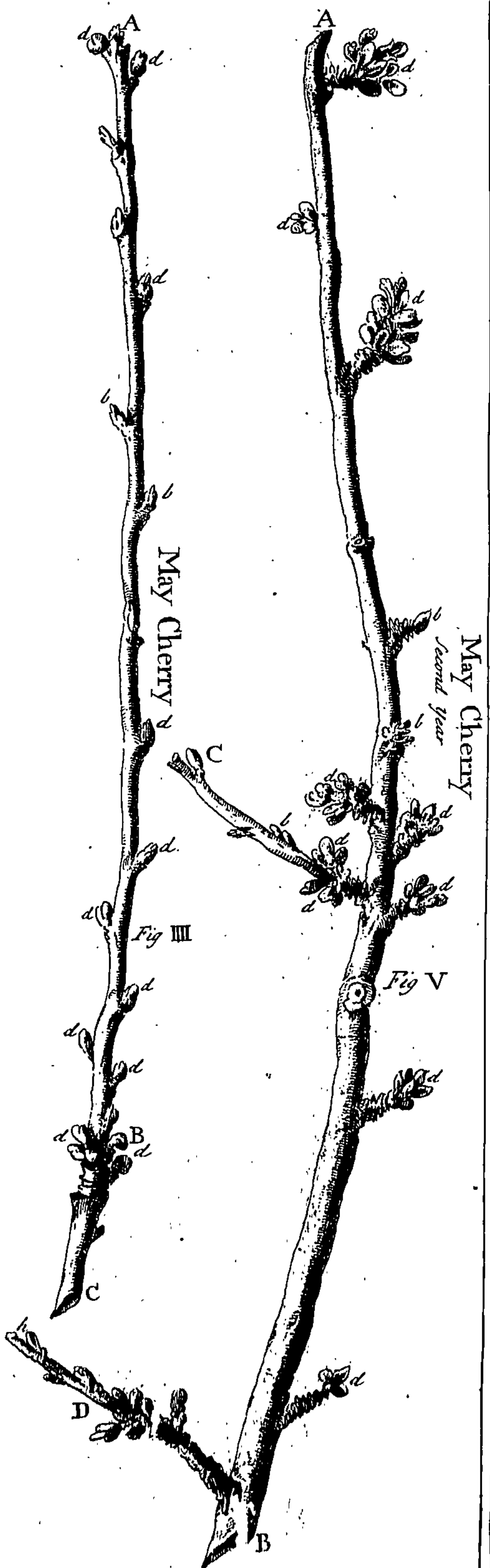
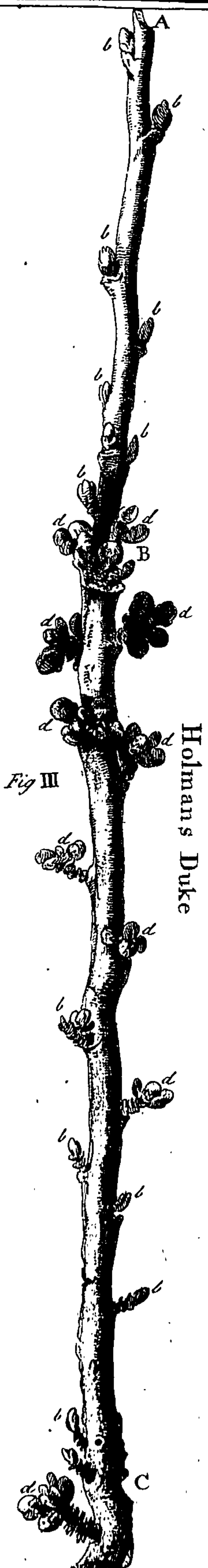
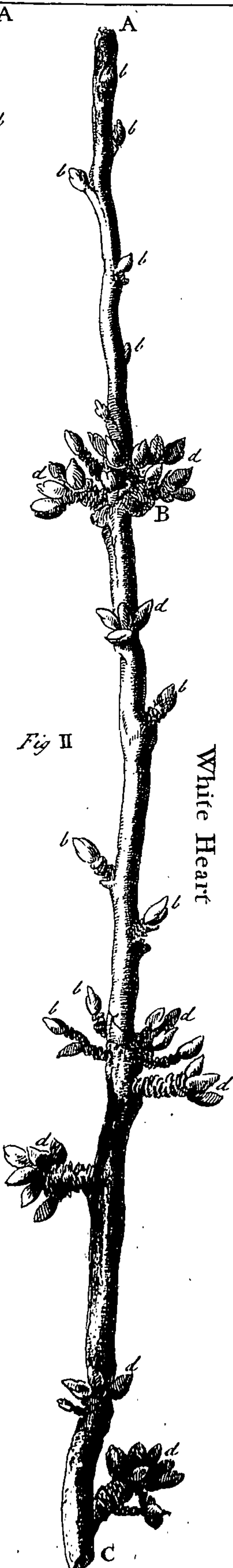
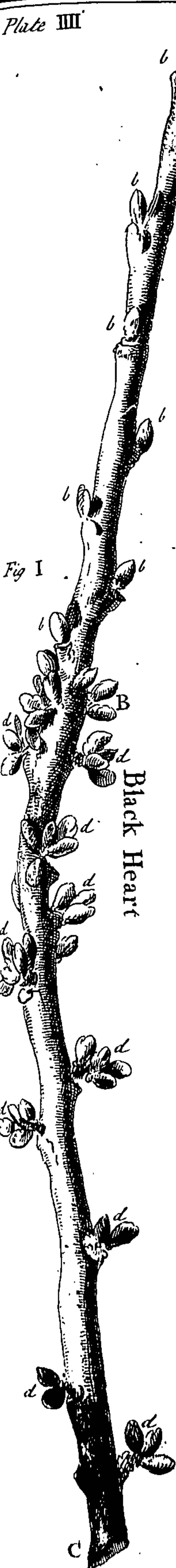


Old Newington Peace
with its Buds swelling to Bloom.

Catherine Peach
in Blossom
March 10. 1787

Catherine Peach  with

Albemarle Peach ^{9.} in Blossom March 10. 1727.



This Branch Exhibits How Nature by an Early Expansion of the Leaf Buds a.a.&c. attracts Nourishment for the Support of the Blossoms at B, B, &c.

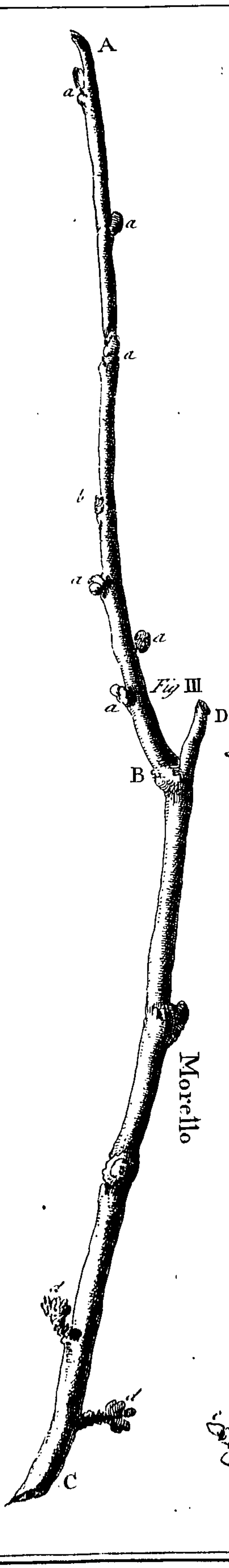
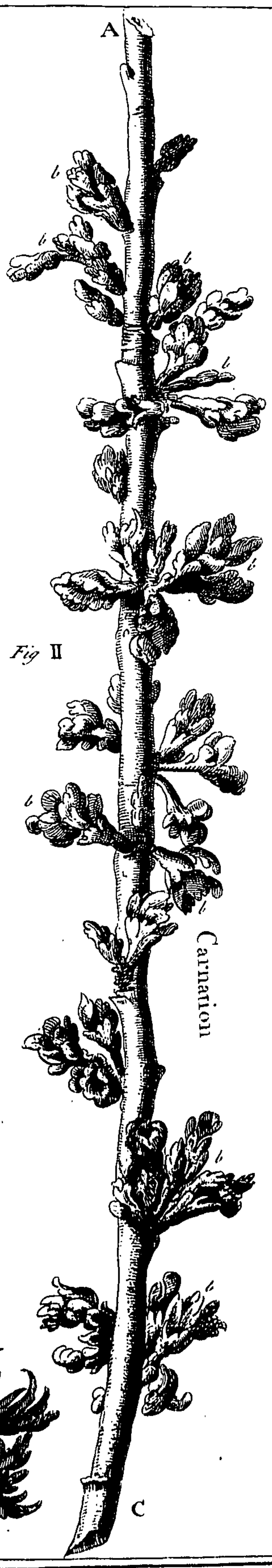
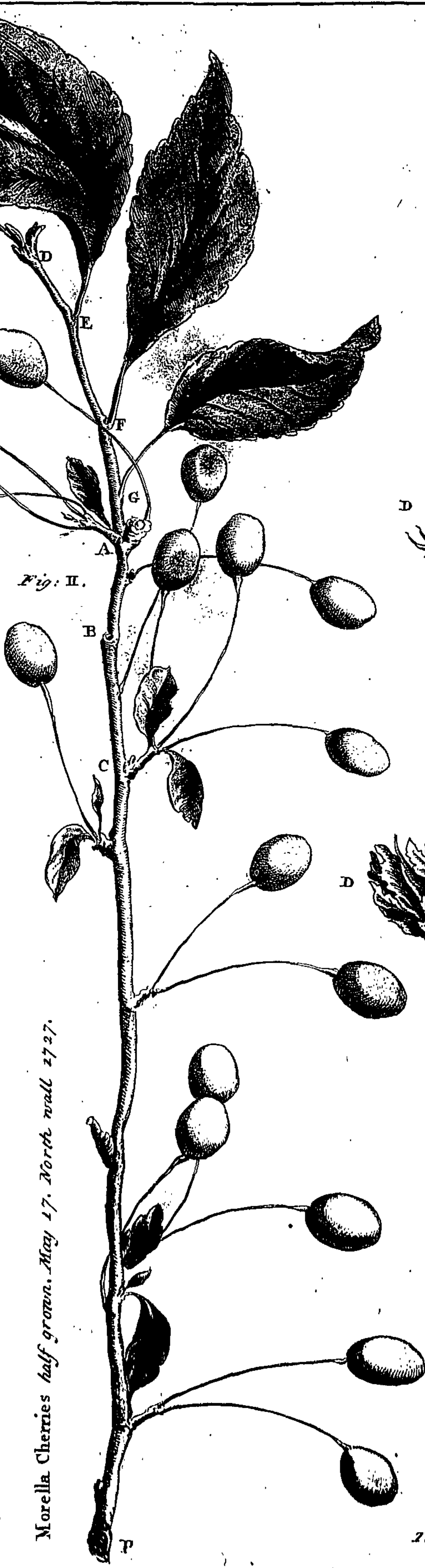


Fig. I.



Portugal Quince, Expanding its leaves. April 10. 1727.

Fig. II.



Morella Cherries half grown. May 17. North wall 1727.

Fig. III.



Barren shoot on the last years shoot.

March 26

two years wood coming into Blossom.

Non. Pareil

T. Bon les Sculpt.

Non-pariel Apple in Blossom, April 20. 1727.

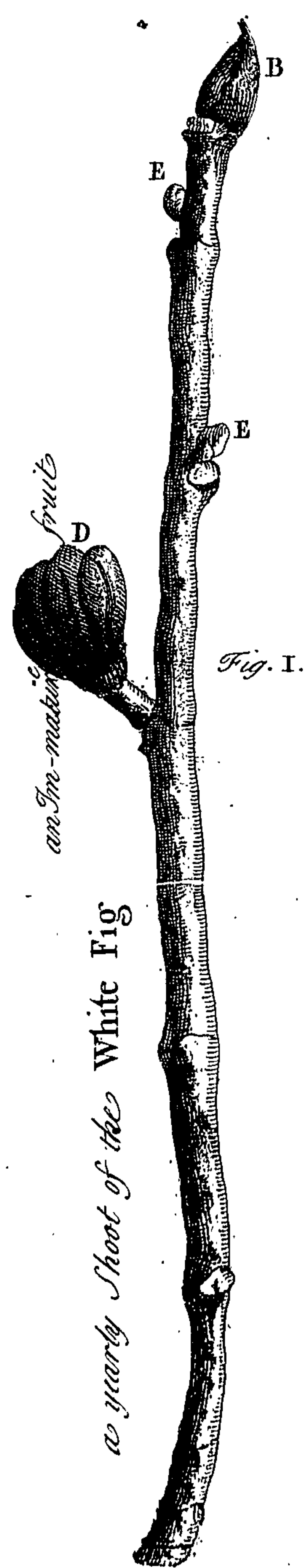
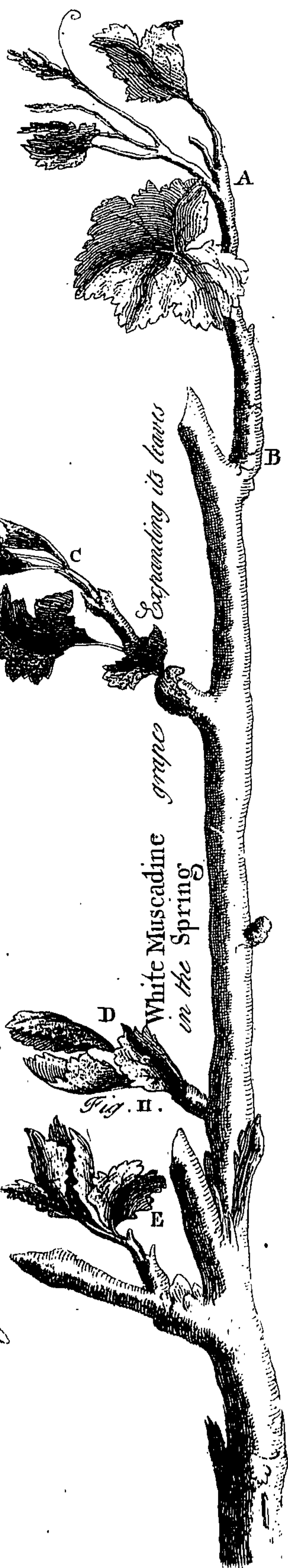
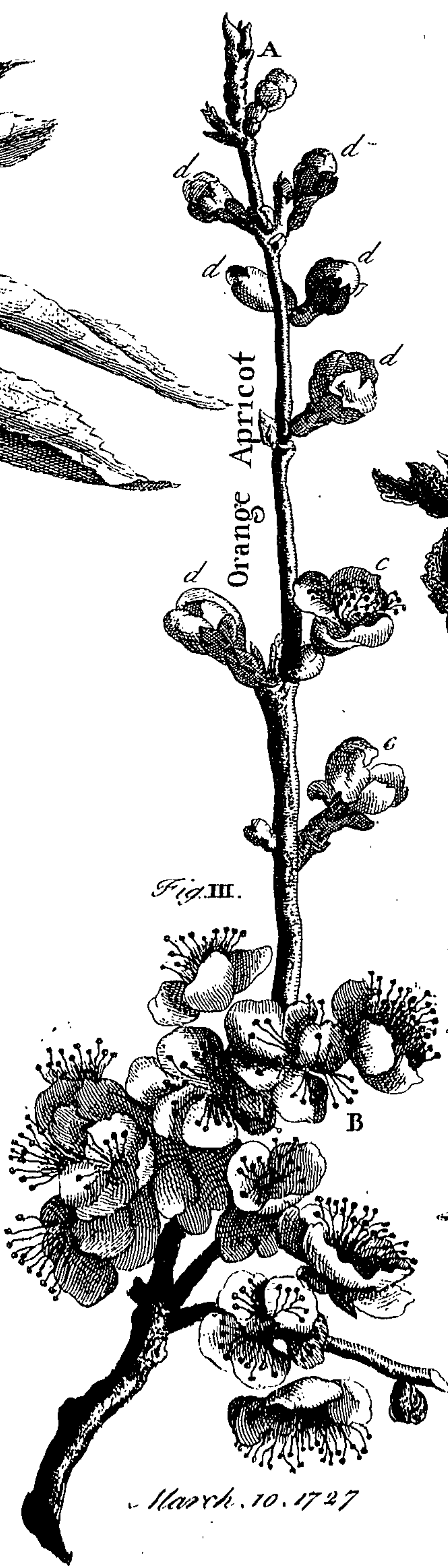
Fig. I.



Fig. II.

Non-pariel Apple, with its fruit, set for growth, May 5. 1727.







White Fig. set for growth.
April 12. 1728.

White Muscadine Grape in Blossom
May 1. 1728 South wall



Albemarle Peach. sec.
April 15. 1727.
South east wall.
20. Degrees.

Roman
Apricot. sec.
March 26. 1727.
south wall.

T. Bowles Sculp.



WhiteHeart Cherry, in
Blossom, April, 10, 1727. Standard.

Fig. I.



Flemish Cherry, in Blossom
April, 10, 1727. Standard.

Morella Cherry, in
Blossom, April, 26, 1727. North Wall.

Fig. II.

Fig. III.

Corone Cherry in Blossom. March. 26. 1797. West Wall.

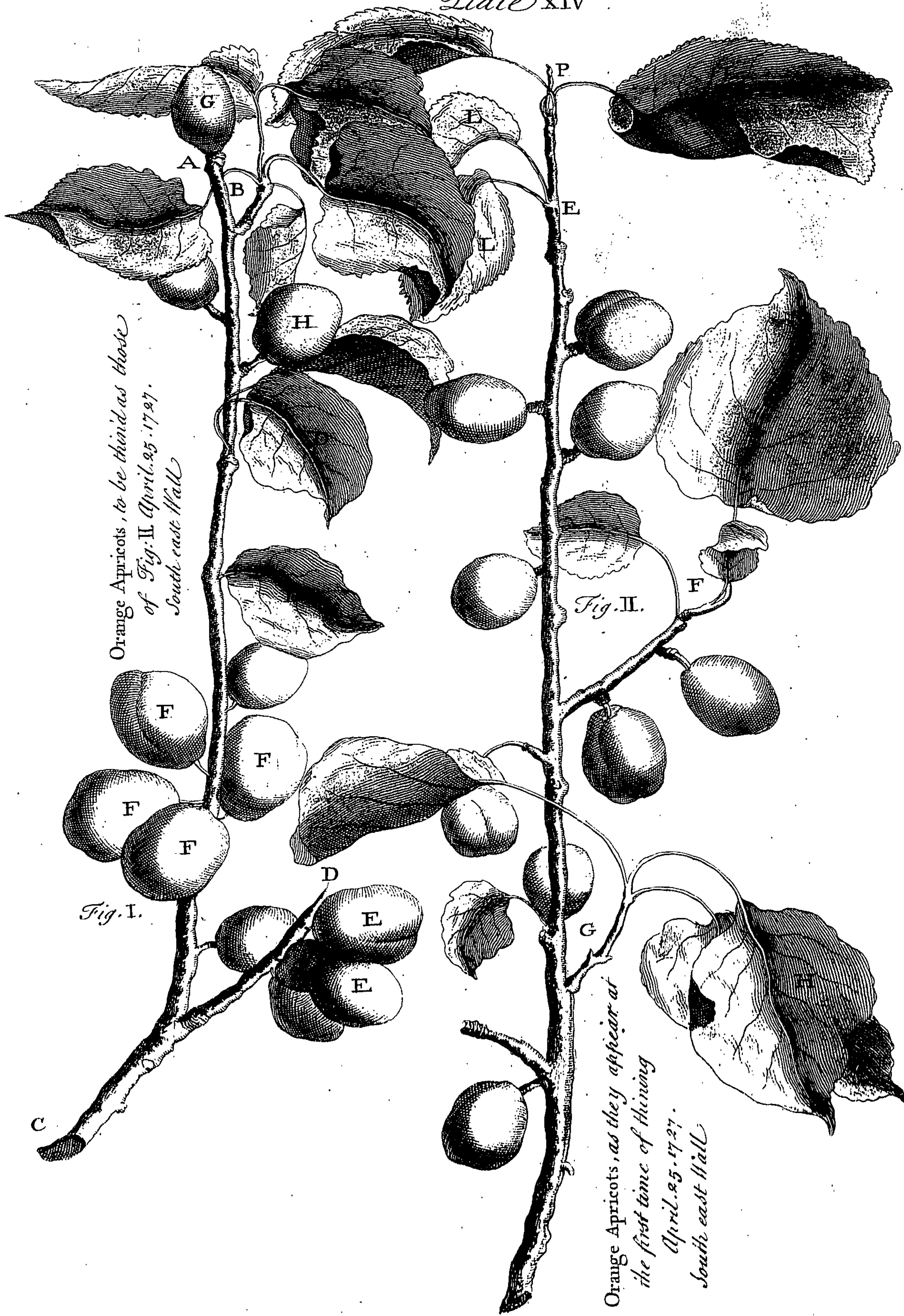
Fig. III



Codling in Blossom.
April 10.
1797.

Fig. V.





Orange Apricots, to be third as those
of Fig. II April. 25. 1727.
South east Wall

Orange Apricots, as they appear at
the first time of thinning
April. 25. 1727.
South east Wall

Malculine Apricot.

May 20. South wall

Fig. I.

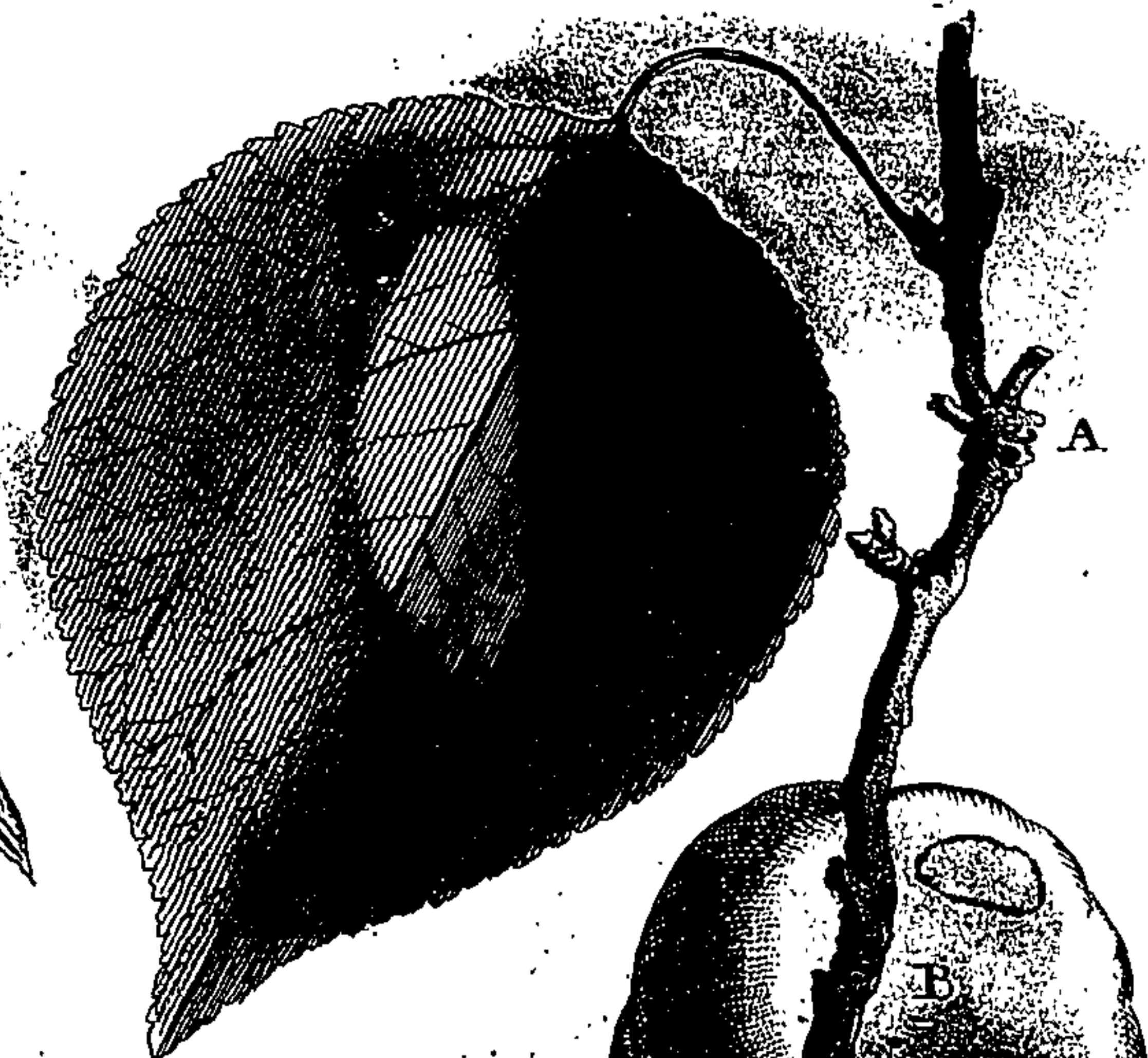
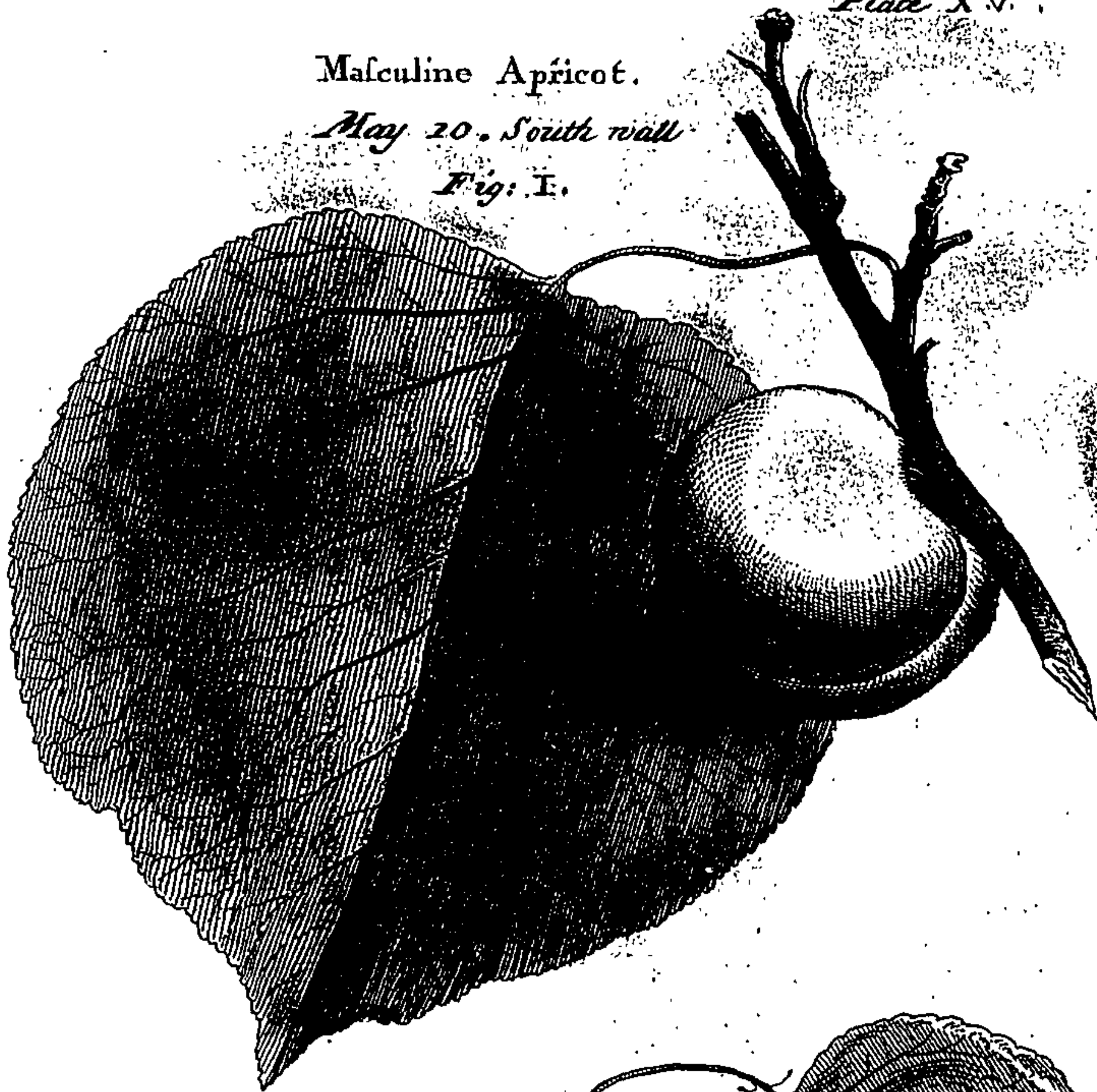
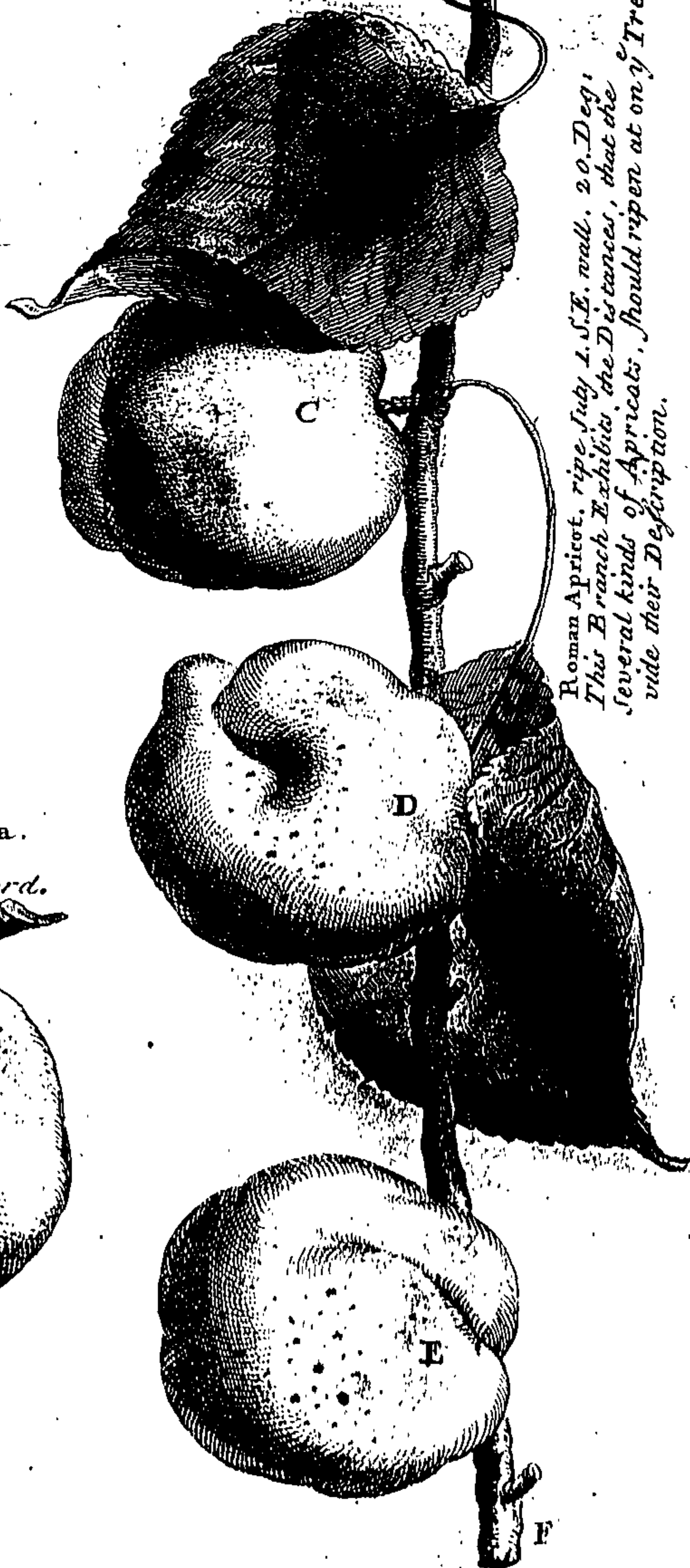
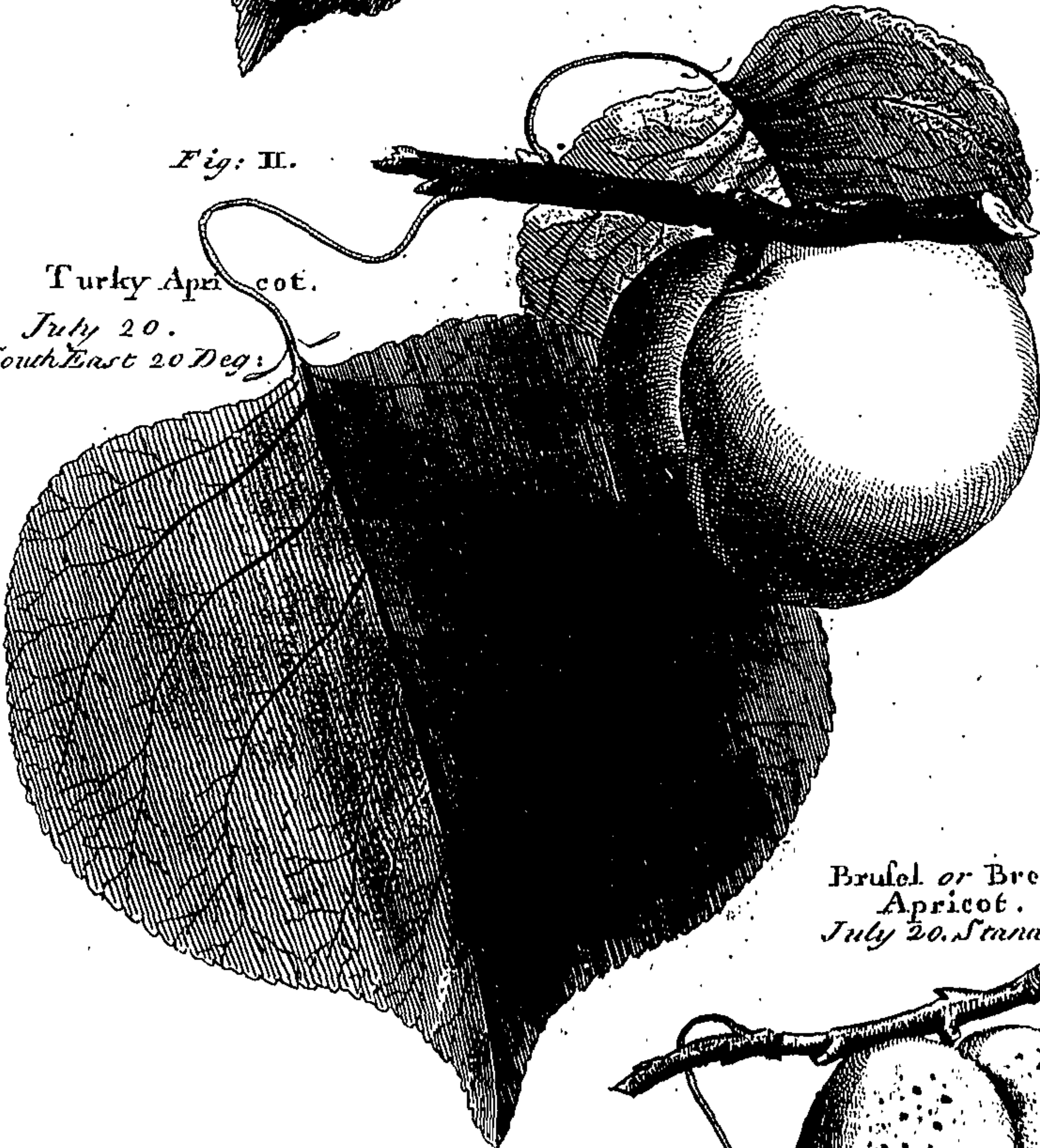


Fig. II.

Turkey Apricot.

July 20.

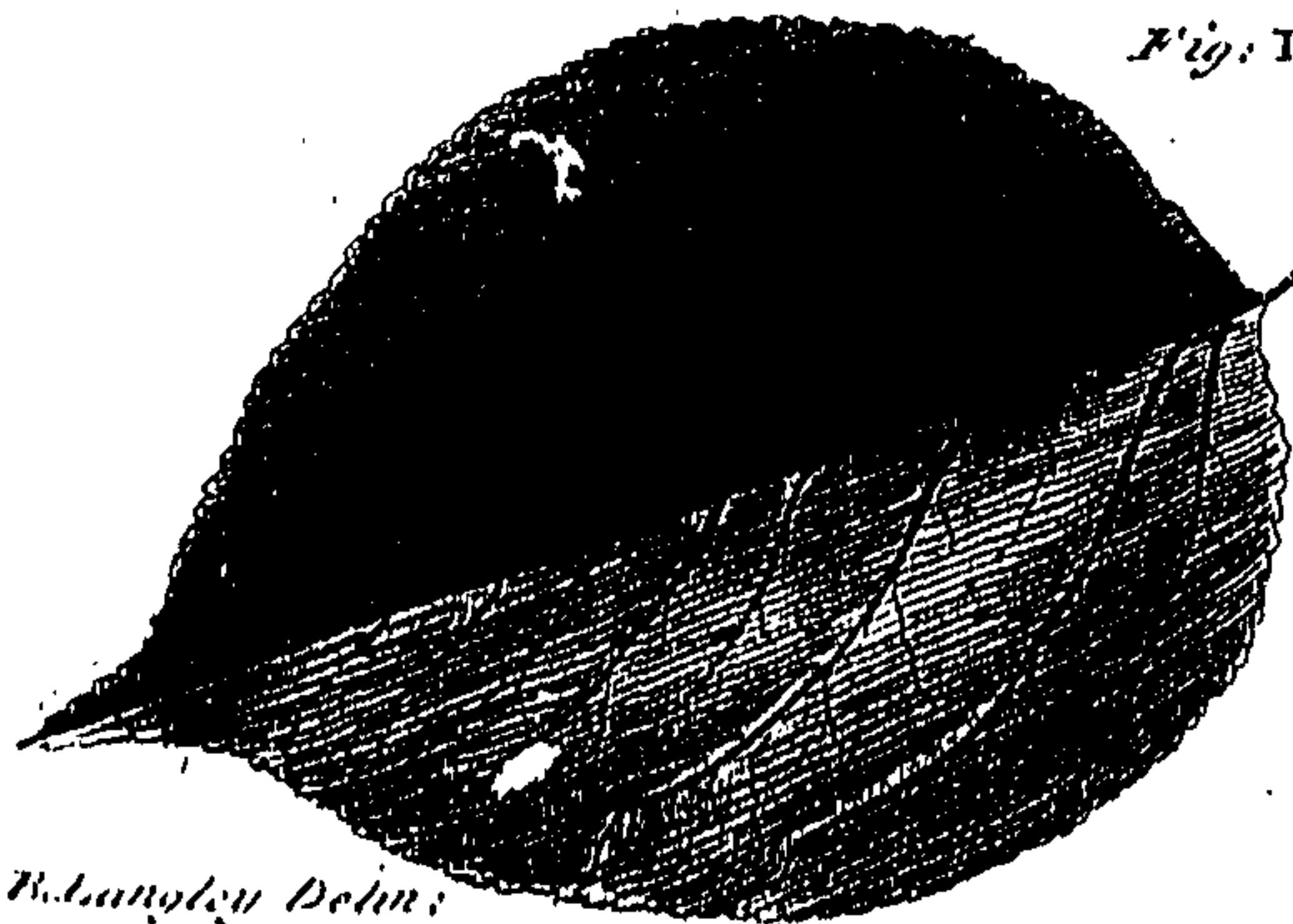
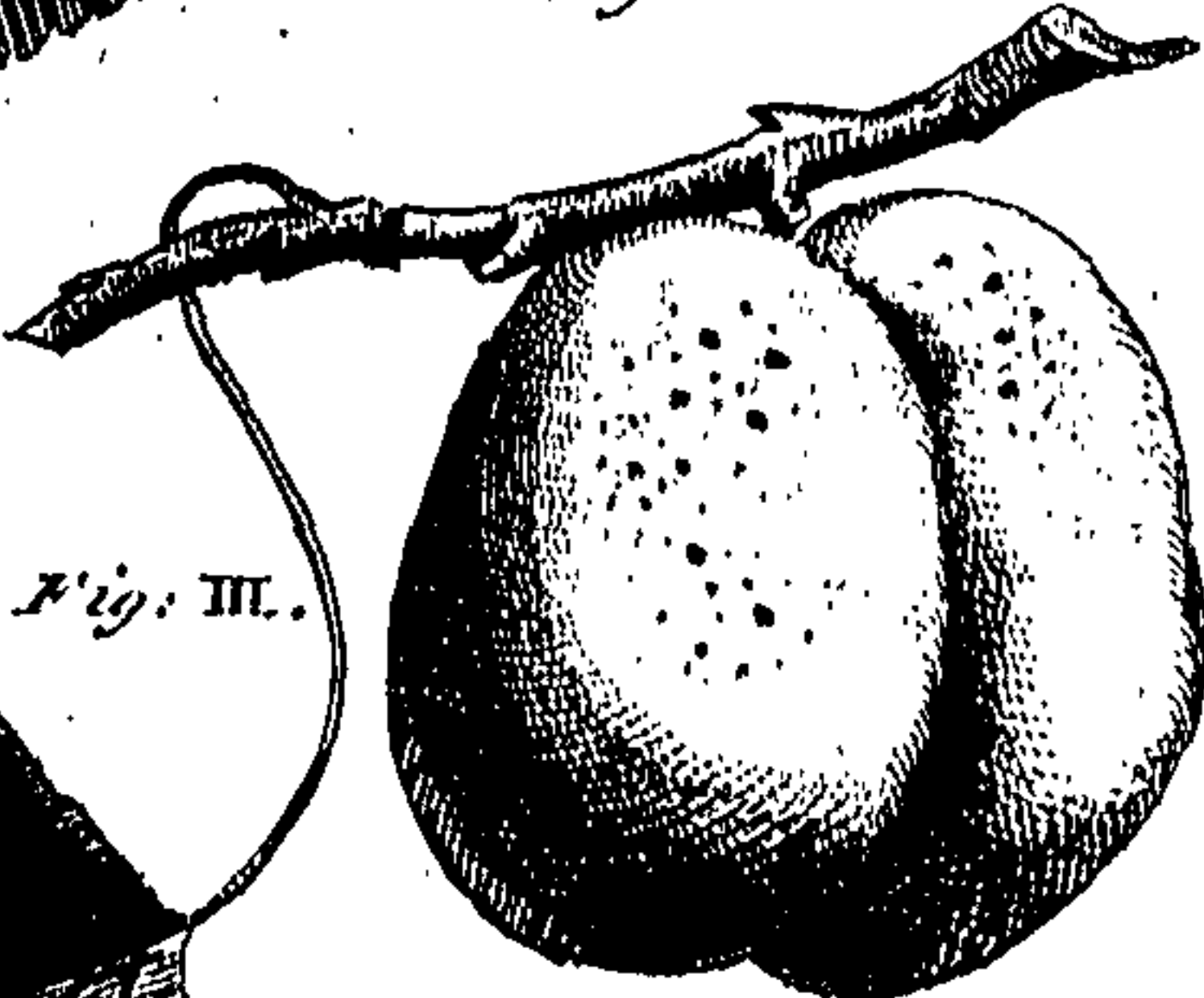
South East 20 Deg.



Roman Apricot, ripe July 1. S.E. wall. 20. Deg.
This Branch Exhibits the Distances, that the
Several kinds of Apricots, should ripen at on y Tree.
vide their Description.

Brusel or Breda.
Apricot.
July 20. Standard.

Fig. III.



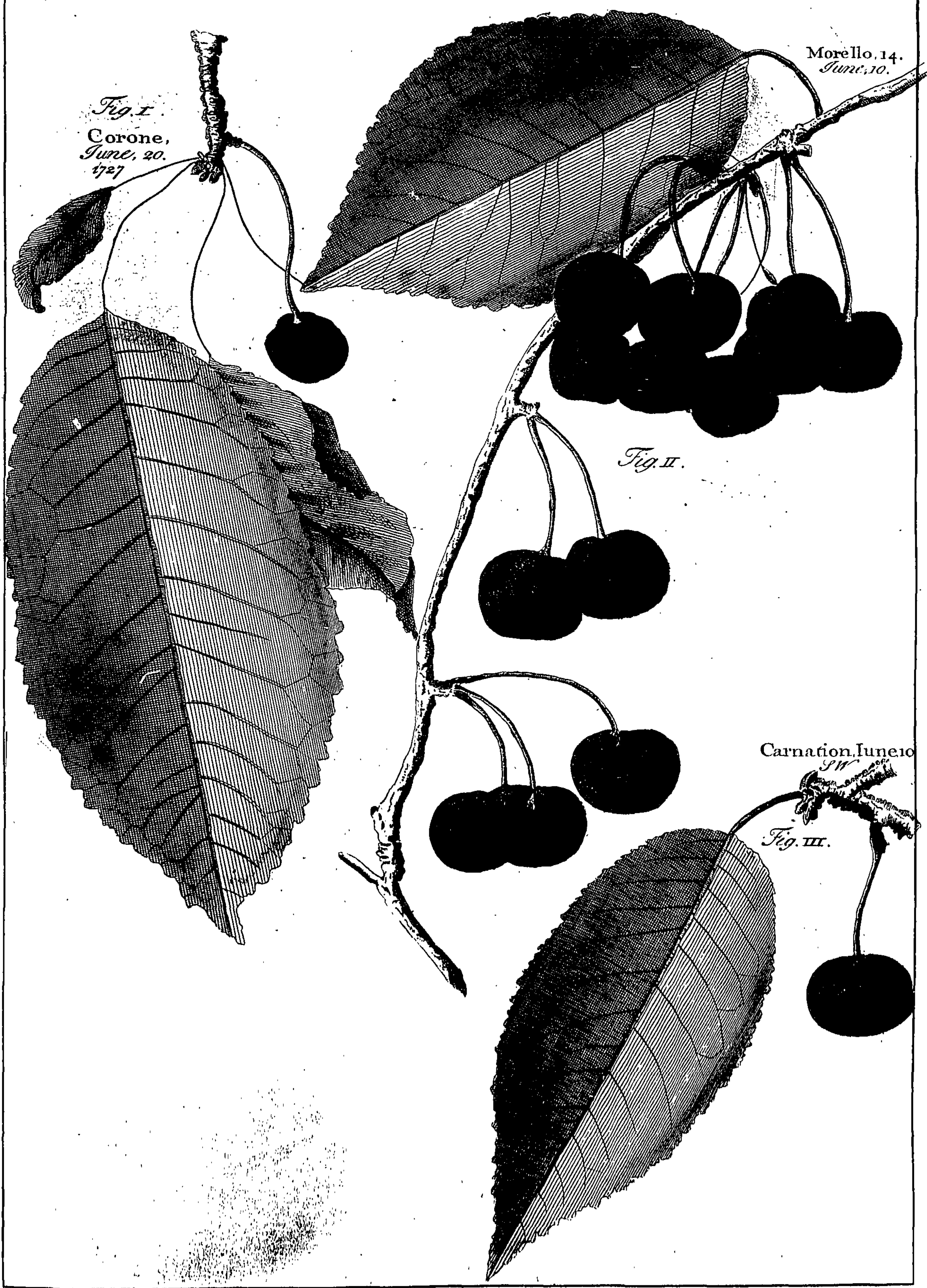
Morello, 14.
June, 10.

Fig. I.
Corone,
June, 20.
1727

Fig. II.

Carnation, June 10
1727

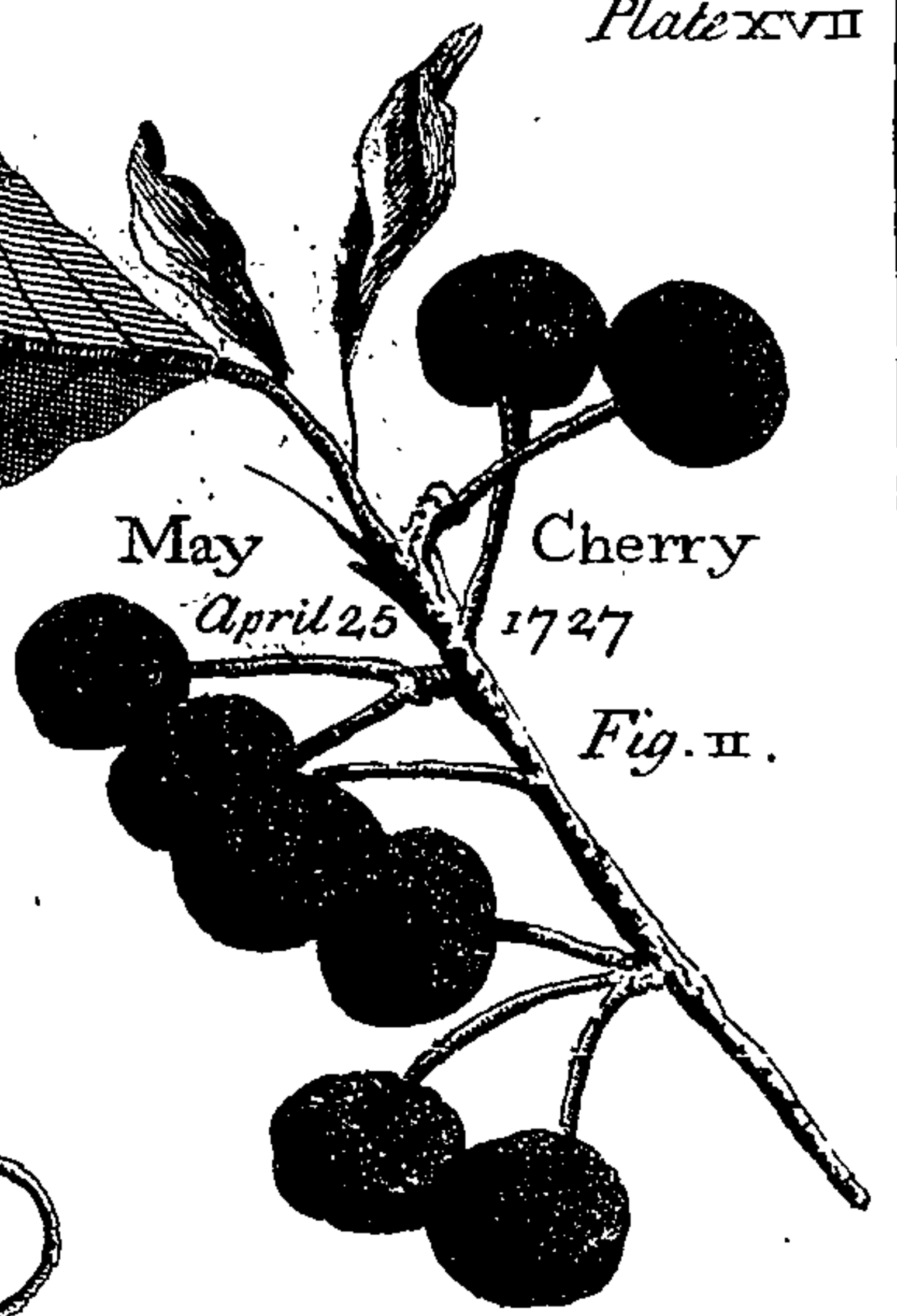
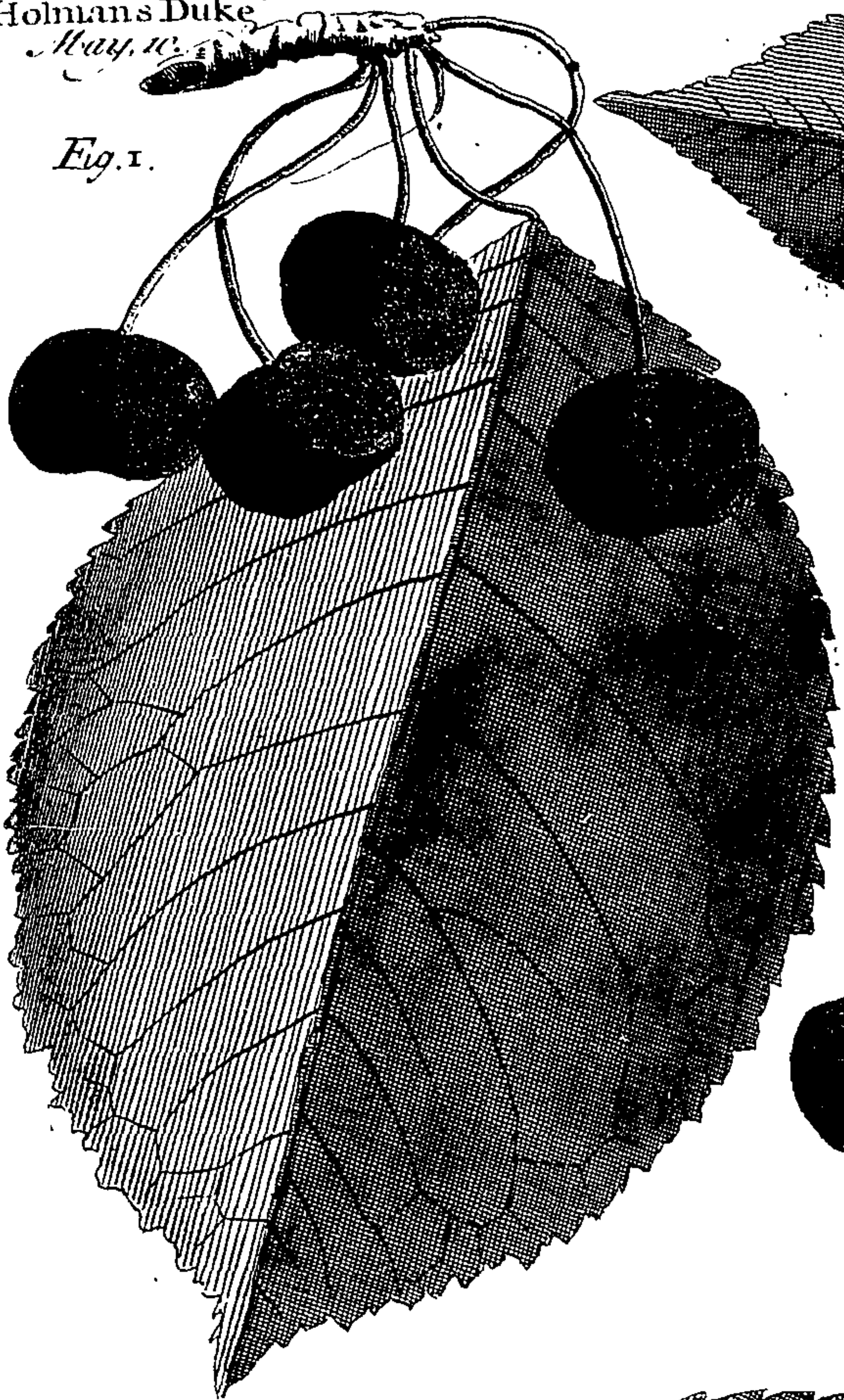
Fig. III.



Holmans Duke
May. 10.

Plate XVII

Fig. I.



May
April 25

Cherry
1727

Fig. II.

Duke,
May. 20.
1727
Fig. III.

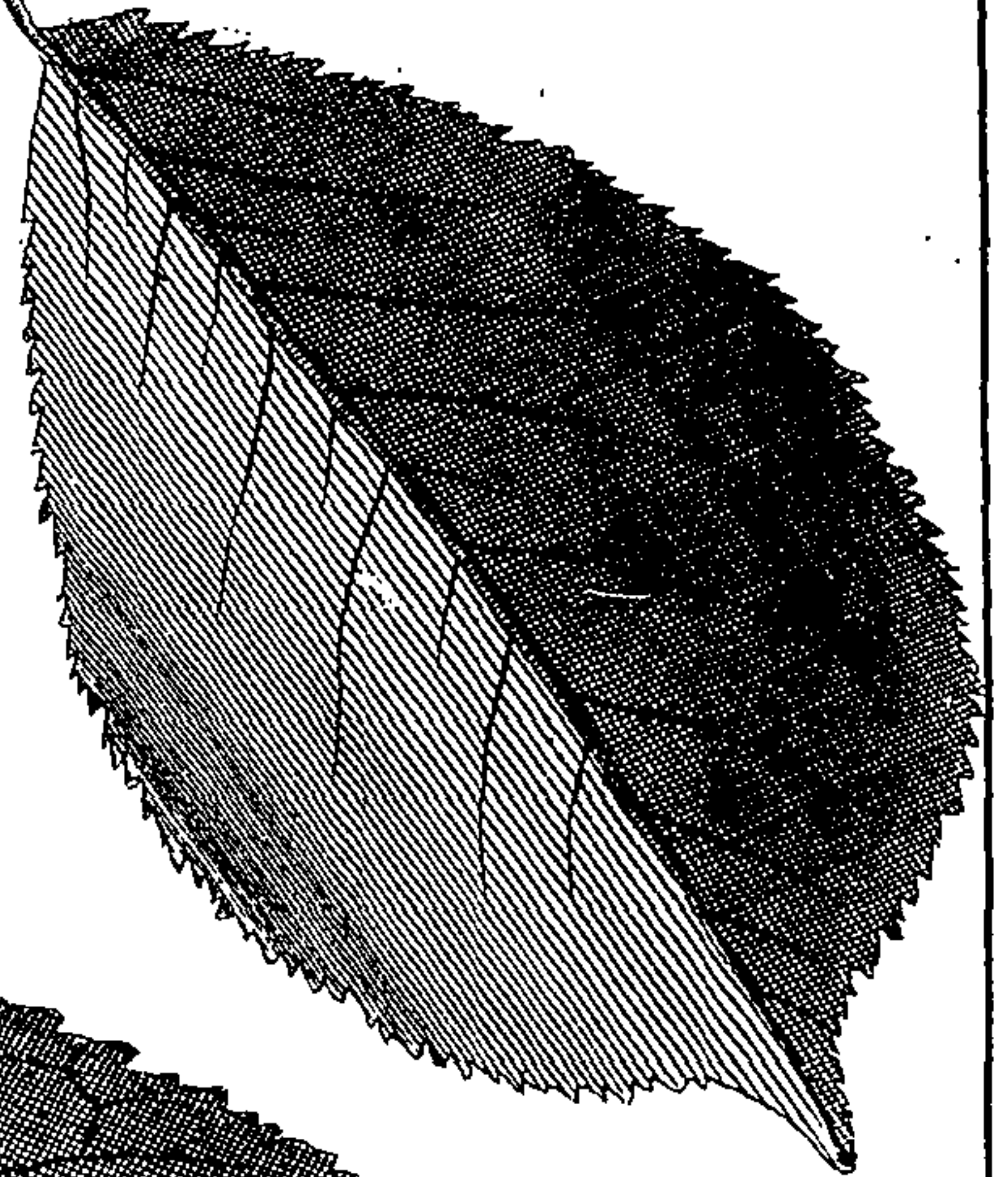
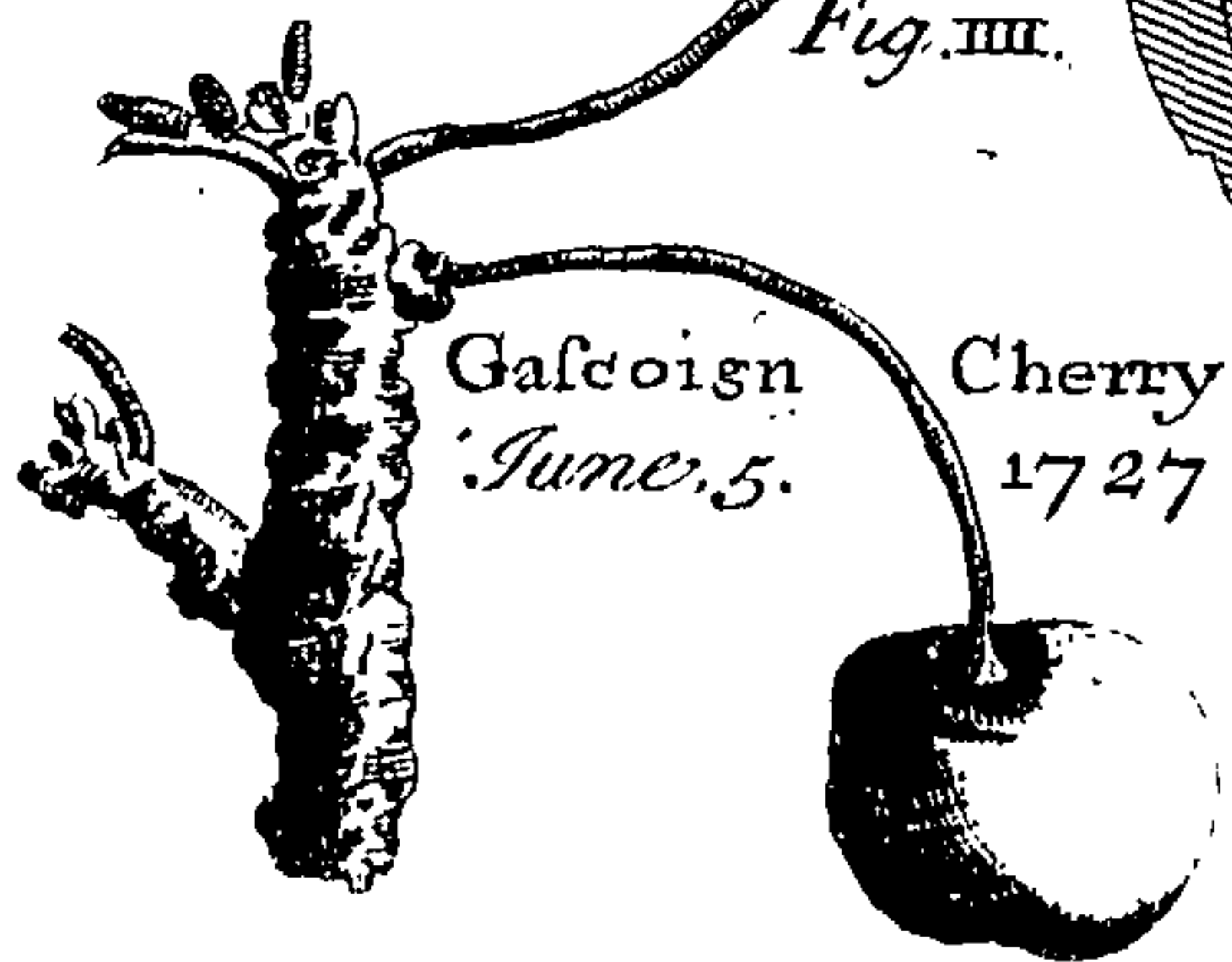
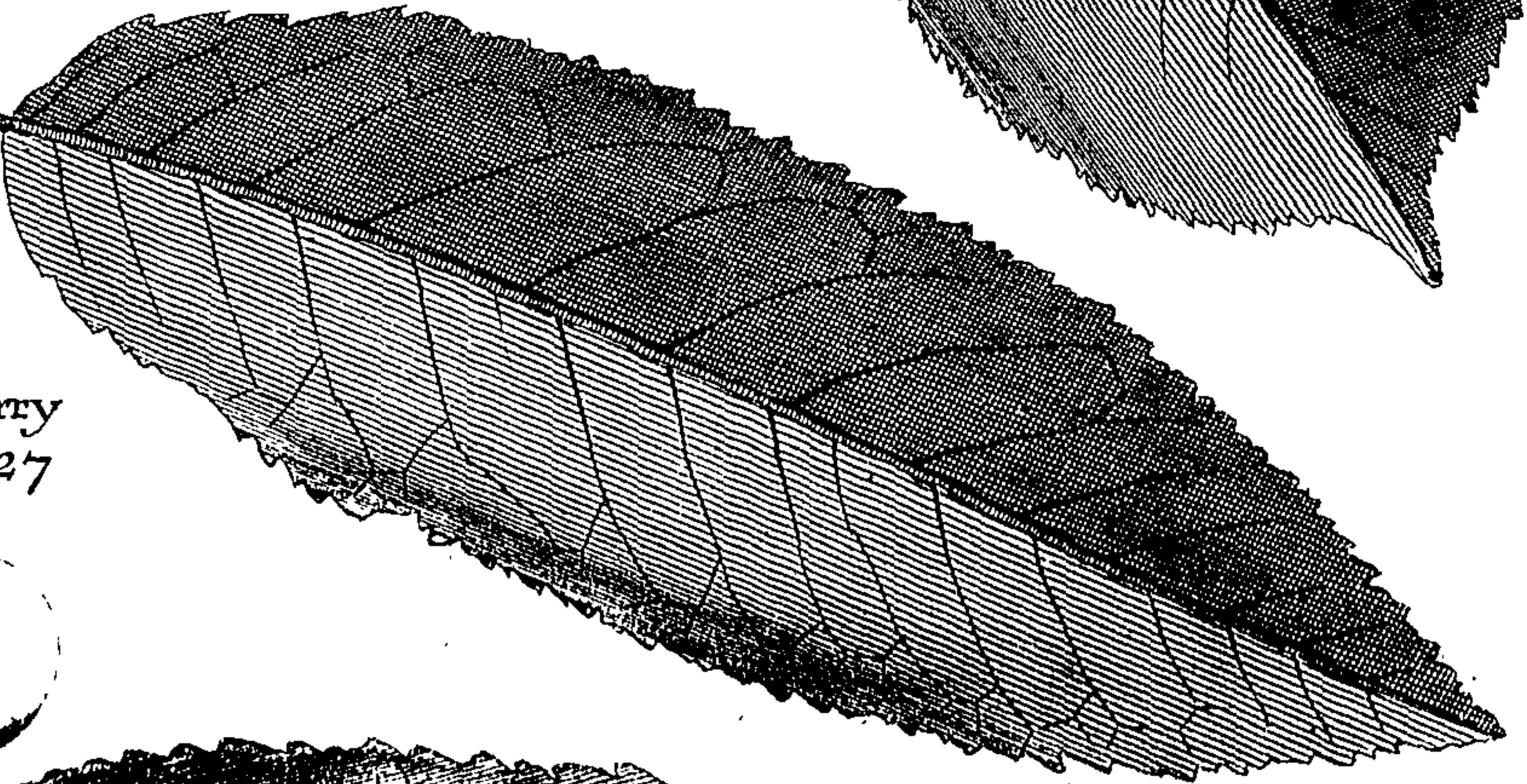


Fig. III.



Gascoign
June. 5.

Cherry
1727



Bleeding
Heart.
June. 5. 1727

Fig. V.



Cluster Cherry

Fig. II.

The true
Kentish Cherry

Fig. I.

Fig. III.

Flemish Cherry

June 9th 1727

White Heart

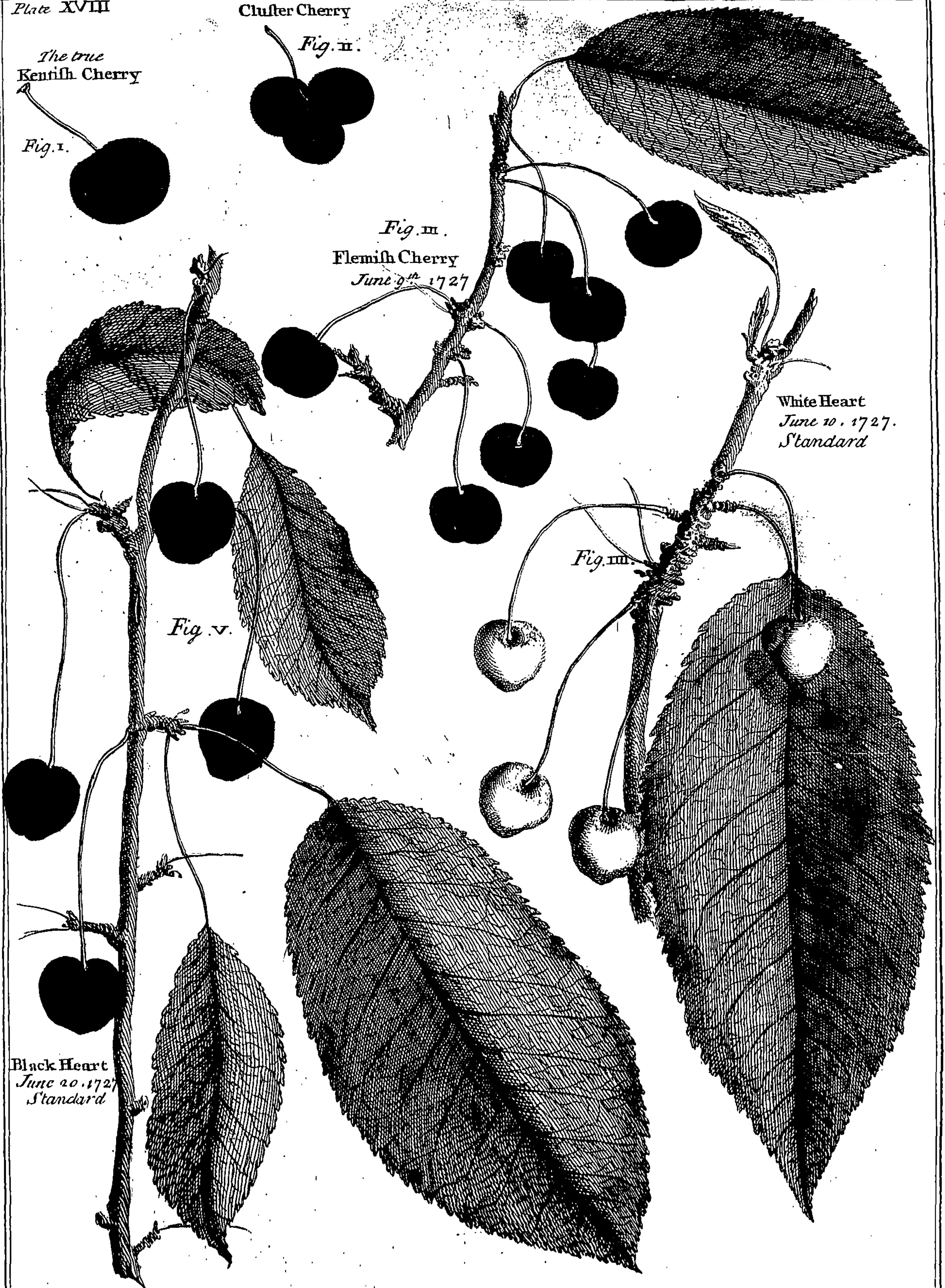
June 10. 1727.

Standard

Fig. V.

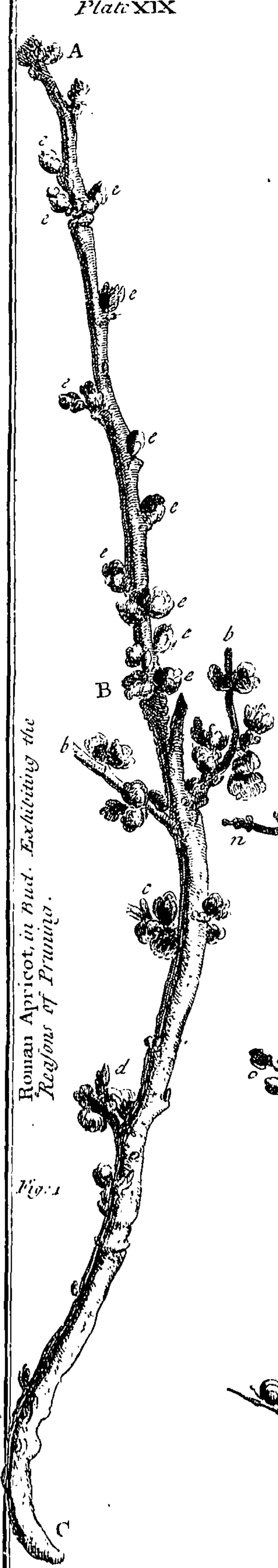
Fig. III.

Black Heart
June 20. 1727
Standard



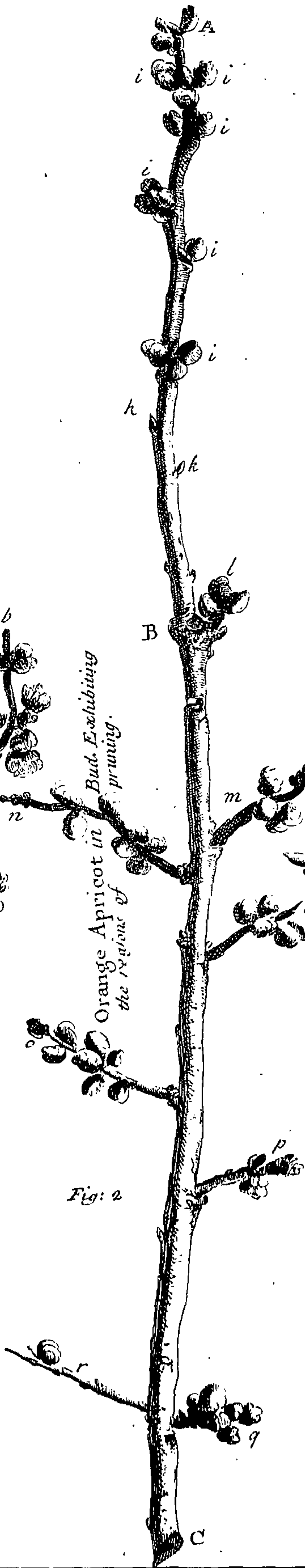
Roman Apricot, in Bud. Exhibiting the Regions of Pruning.

Fig. 1



Orange Apricot in Bud. Exhibiting the Regions of Pruning.

Fig. 2

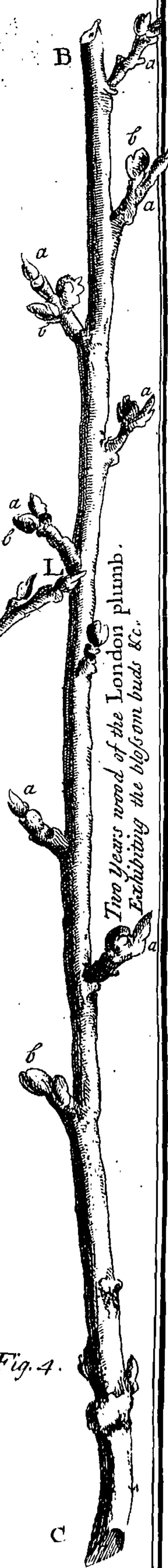


One Years wood of the Leanhative plumb. Exhibiting the regions of pruning.

Figs.



Fig. 4.



Primordian
July 1.

Plate XX.

Jean Hative June 9th

Fig: II.

South
East wall
30 Deg

Fig: I.

Morocco.
July 14. E. Wall.

Fig: III.

Orlean's July 10.

S. W. wall
40 Deg.

Fig: III.

Imperial
July 25
N.W. 45.
Deg.

Fig: IV.

Fotheringham
or Sheen Plum.
July 14 S.E. wall
20 Deg.

Fig: VI.

Violet July 15. West Wall.

Fig: VII.

Fig: VIII.

La Royal
July 20
S.E. 40 Deg.

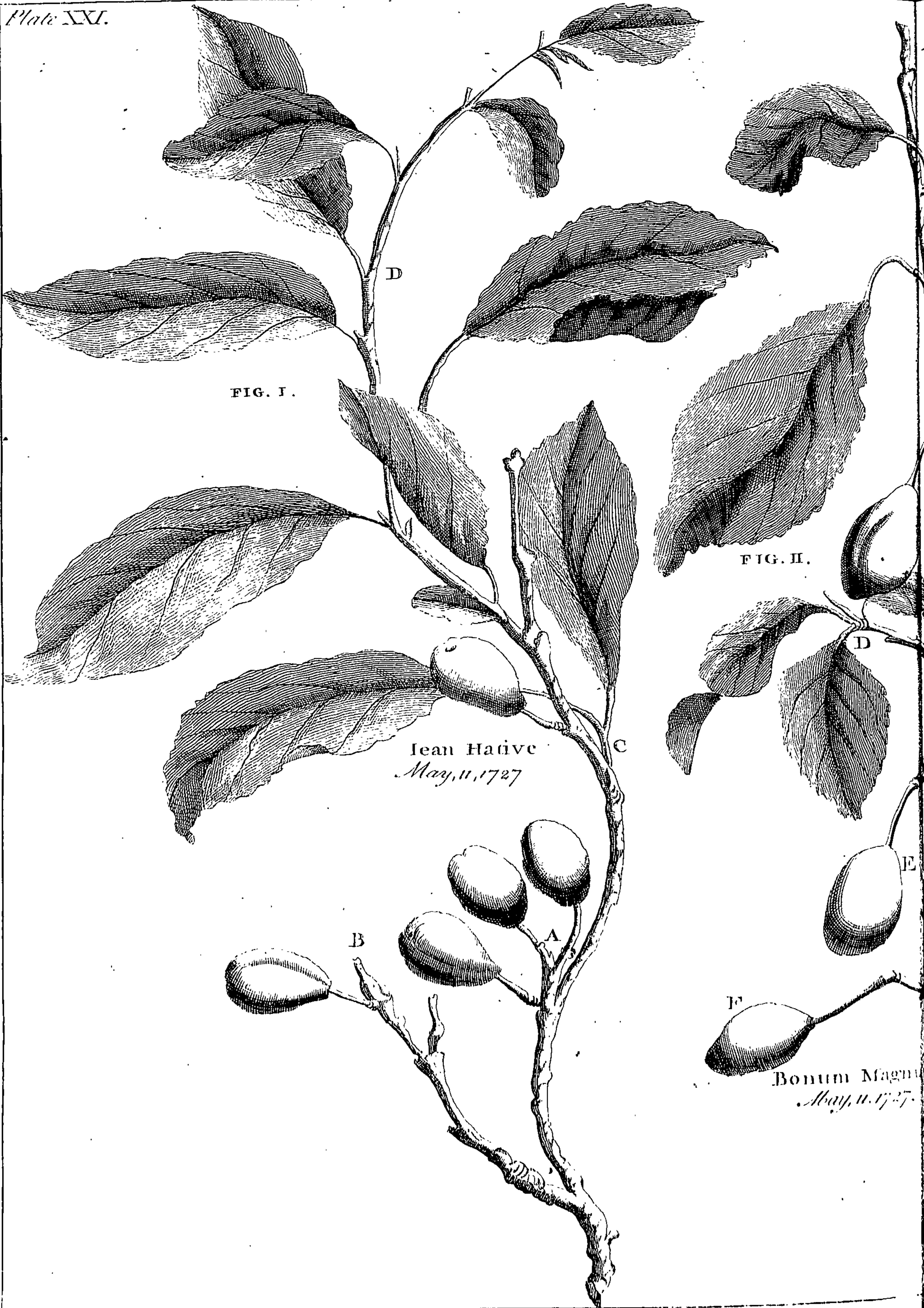


FIG. I.

FIG. II.

Iean Hative
May, 11, 1727

Bonum Magnu
May, 11, 1727

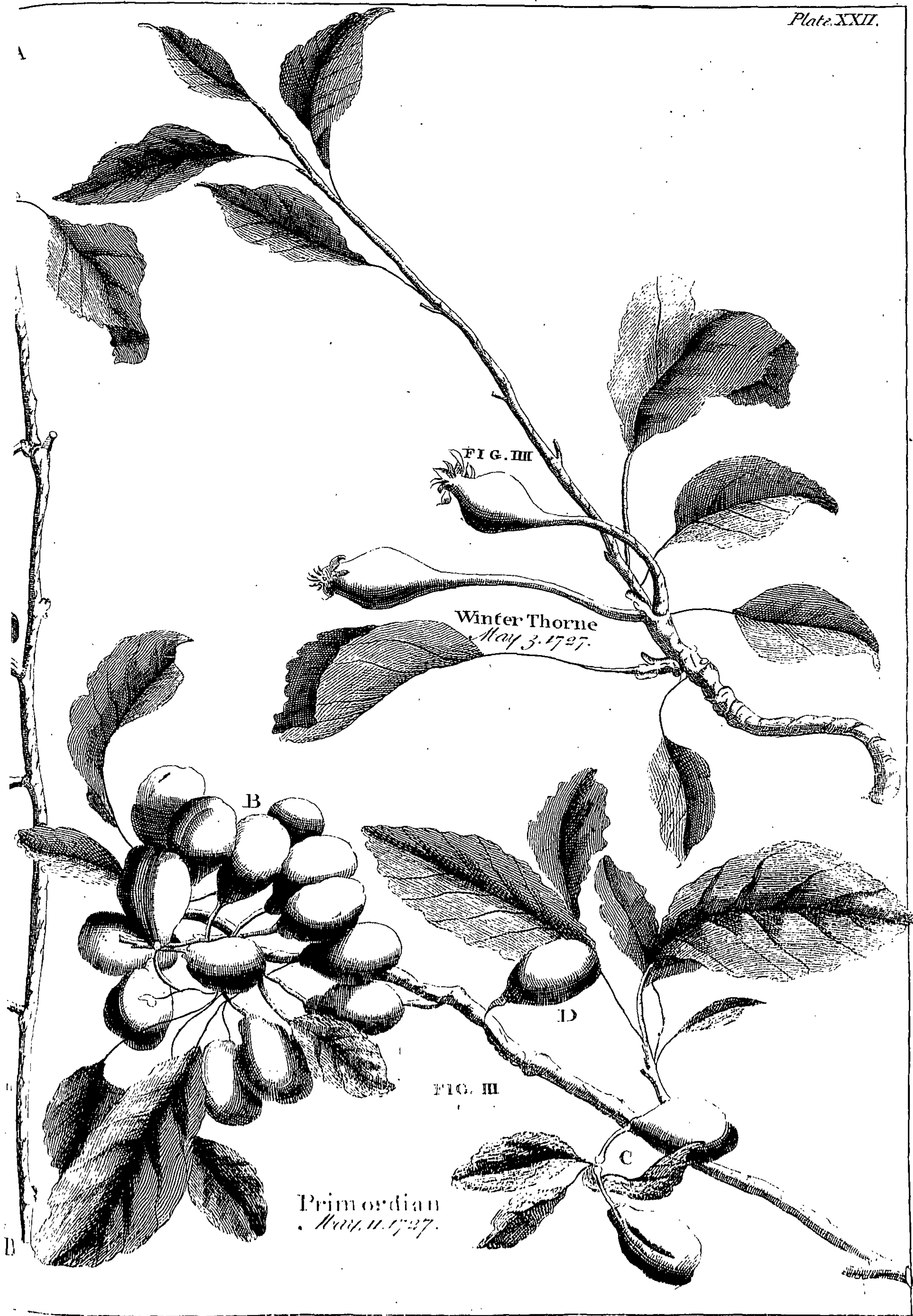
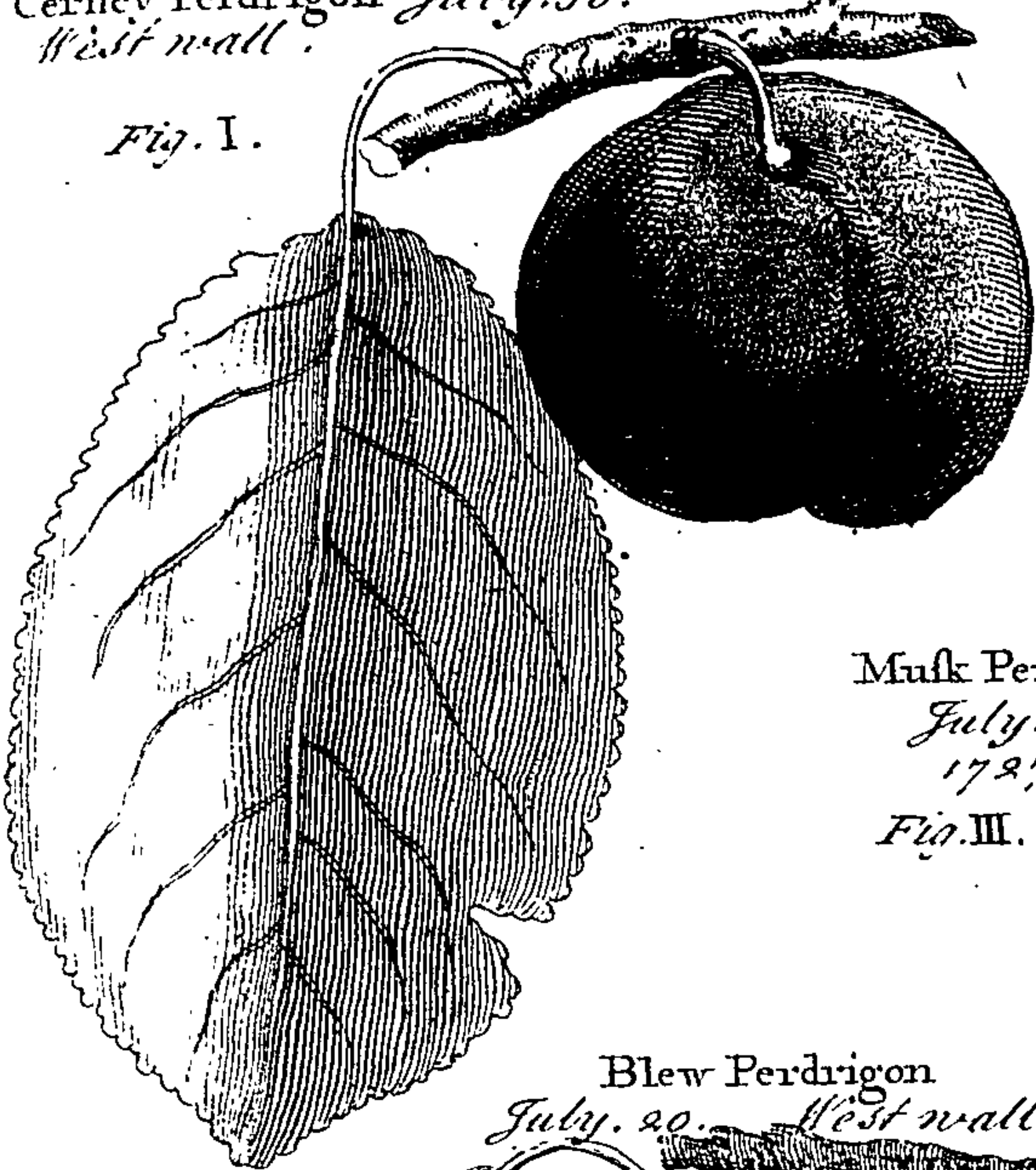


Plate XXIII.

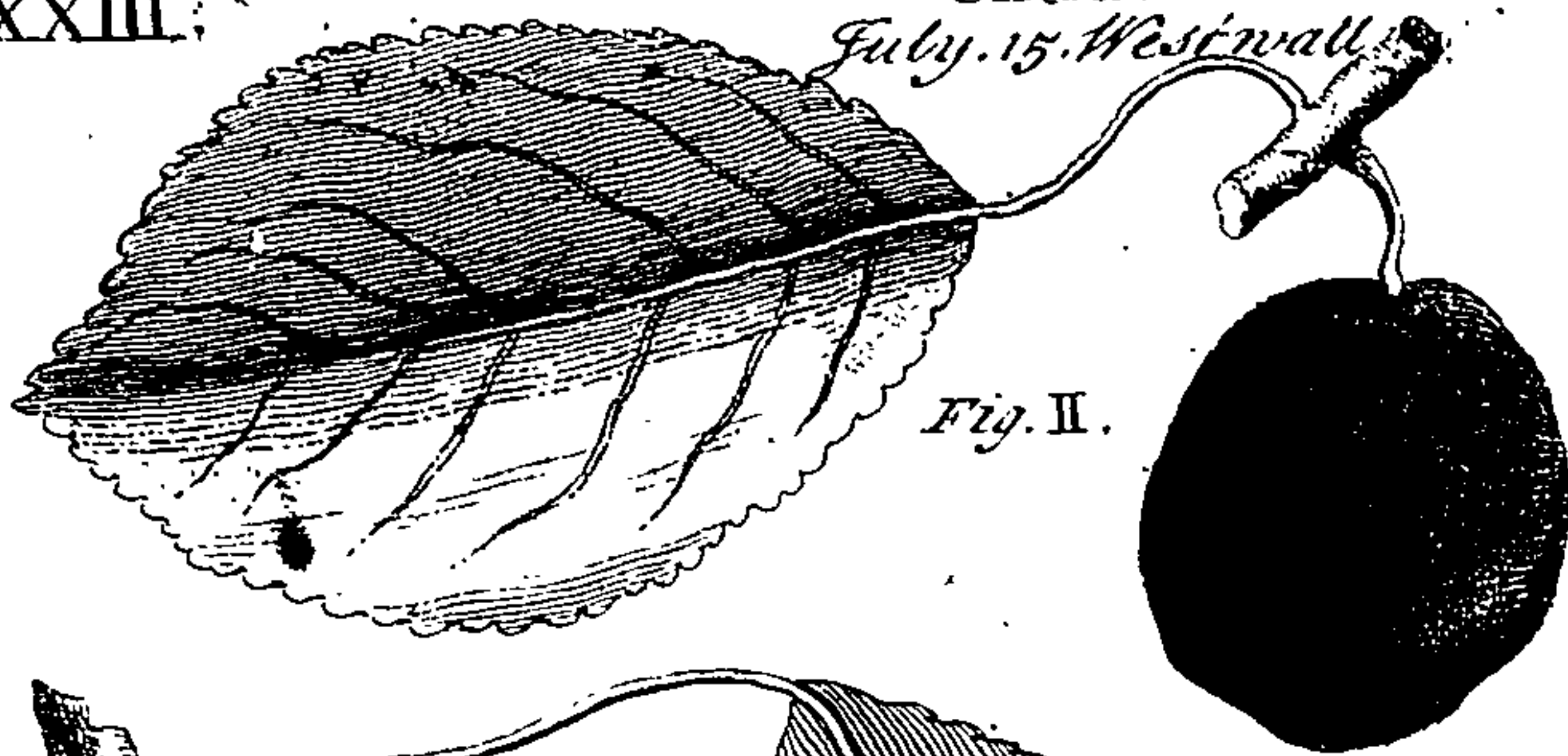
Cernev Perdrigon July. 30.
West wall.

Fig. I.



Cheston Plumb July. 15. West wall.

Fig. II.



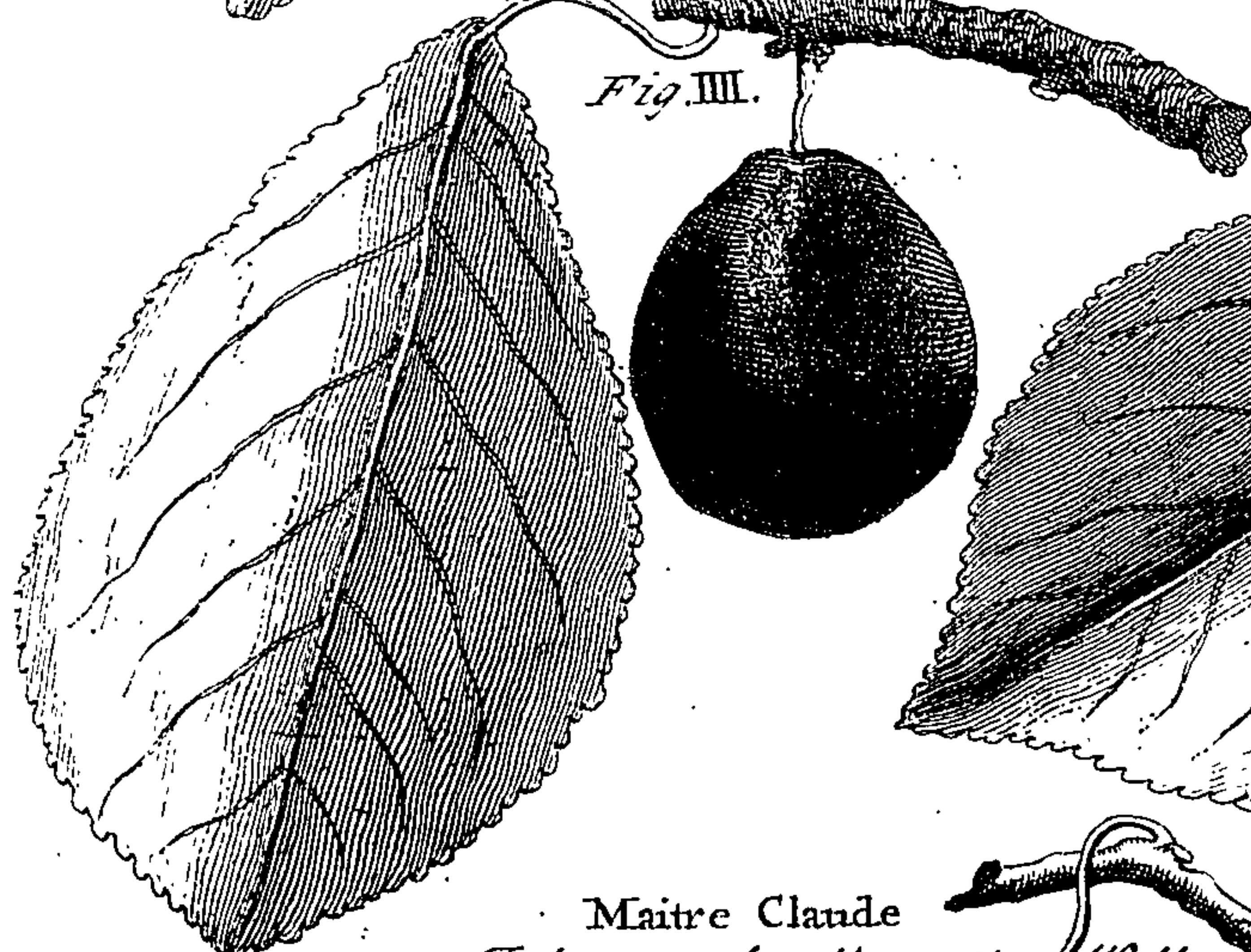
Musk Perdrigon July. 20.
1727

Fig. III.



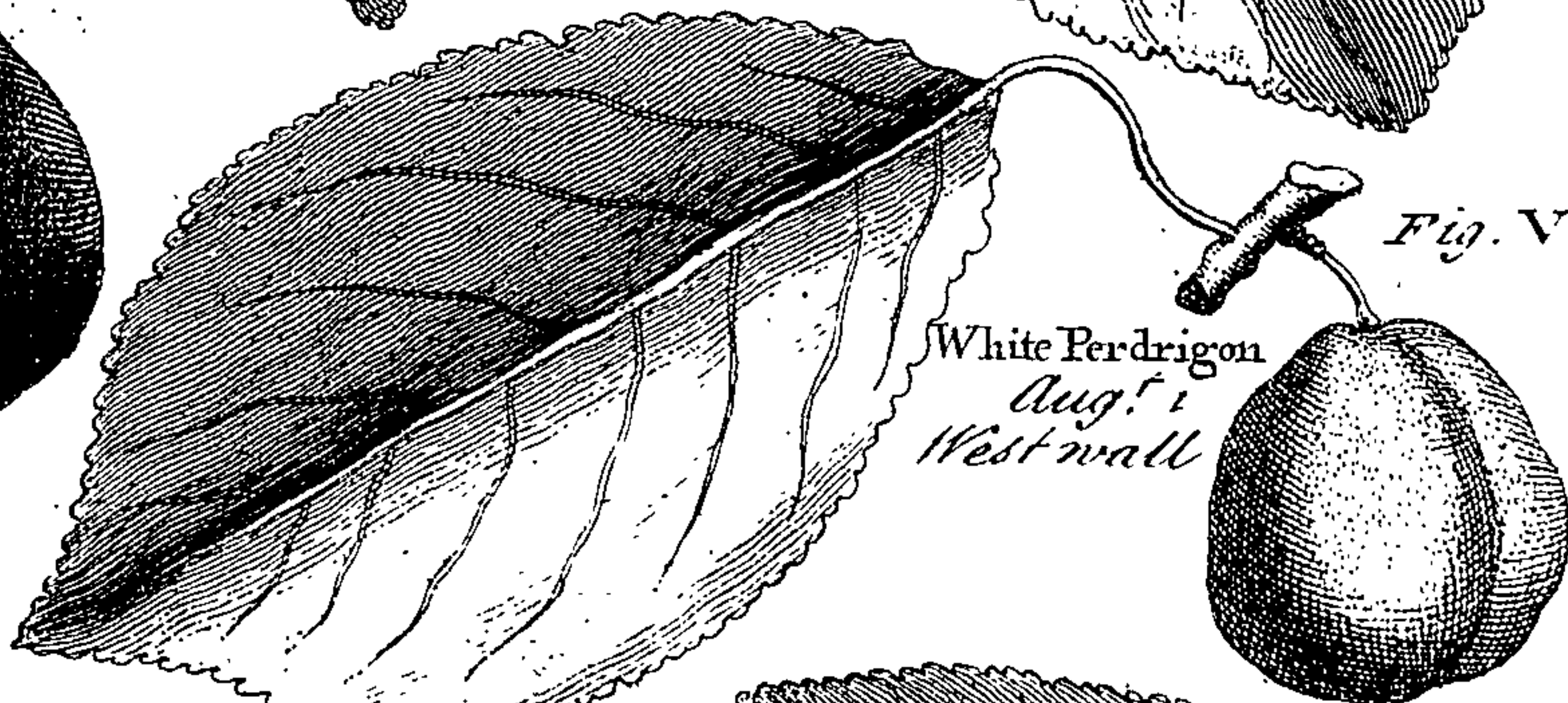
Blew Perdrigon July. 20. West wall

Fig. III.



White Perdrigon Aug. 1.
West wall

Fig. V.



Maitre Claude July. 23. South east Wall

Fig. VI.

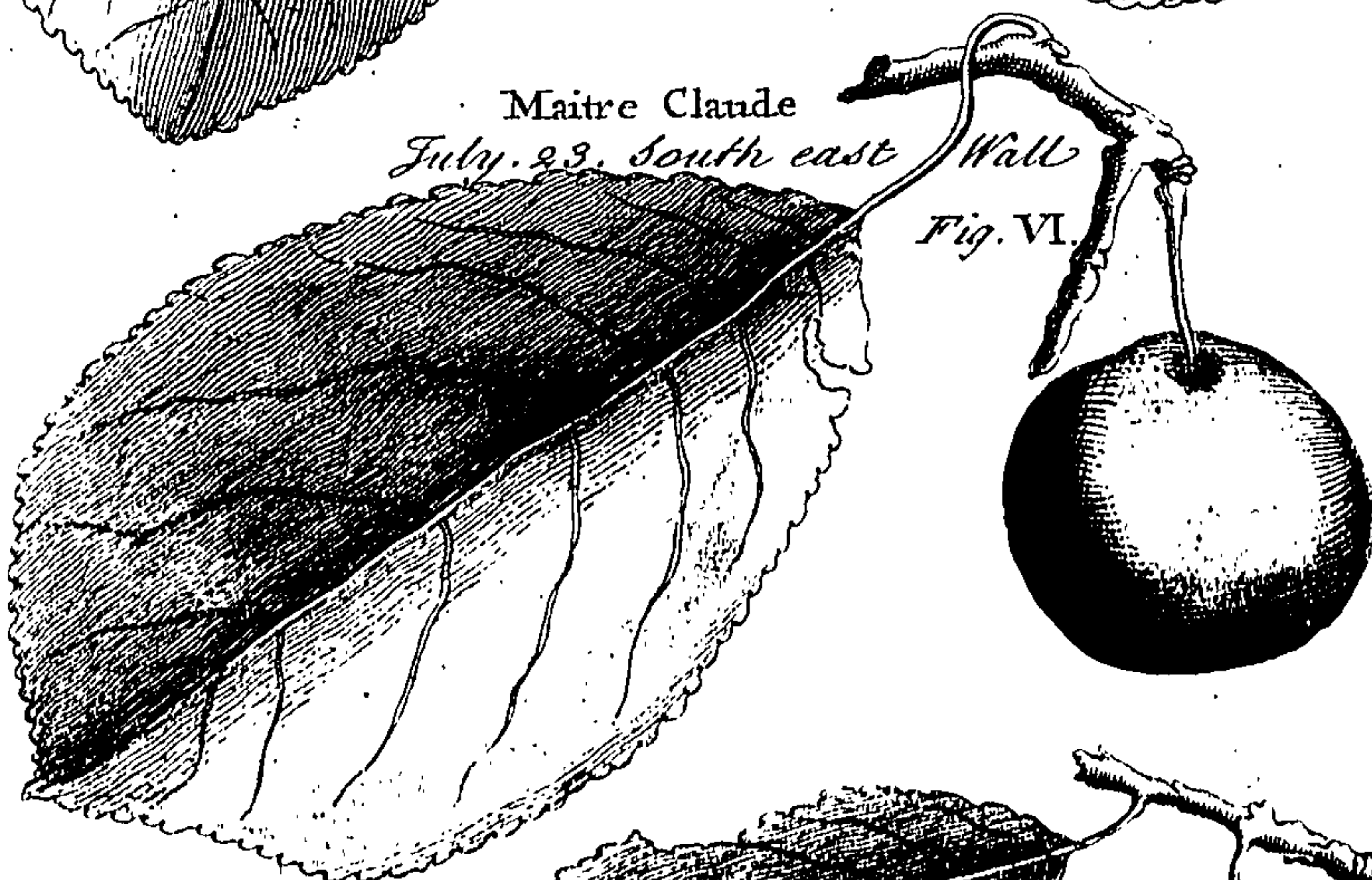


Fig. VII.

Reine Claude Aug. 8.
West wall.

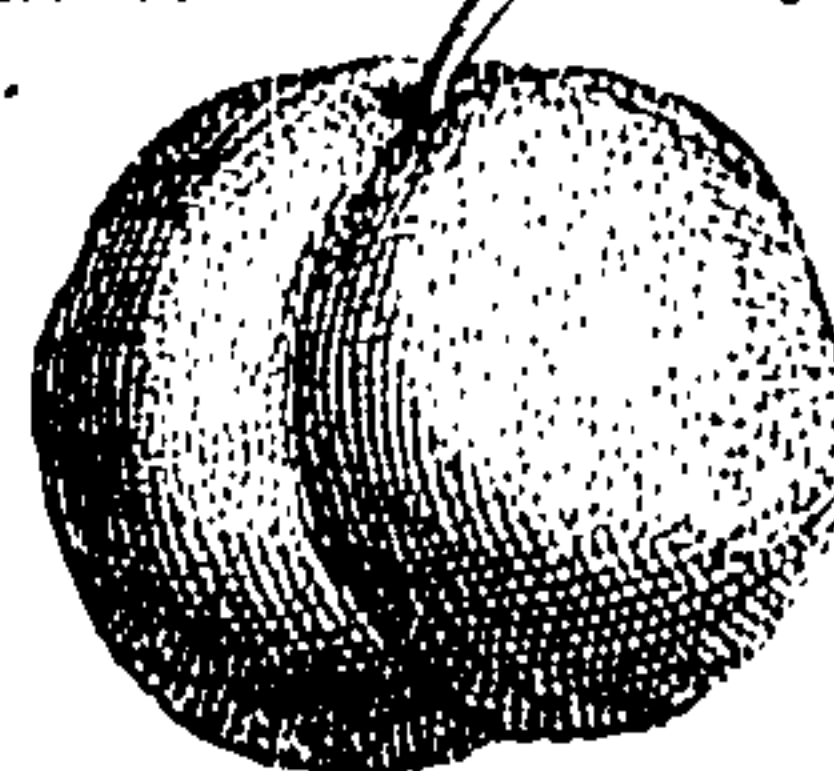
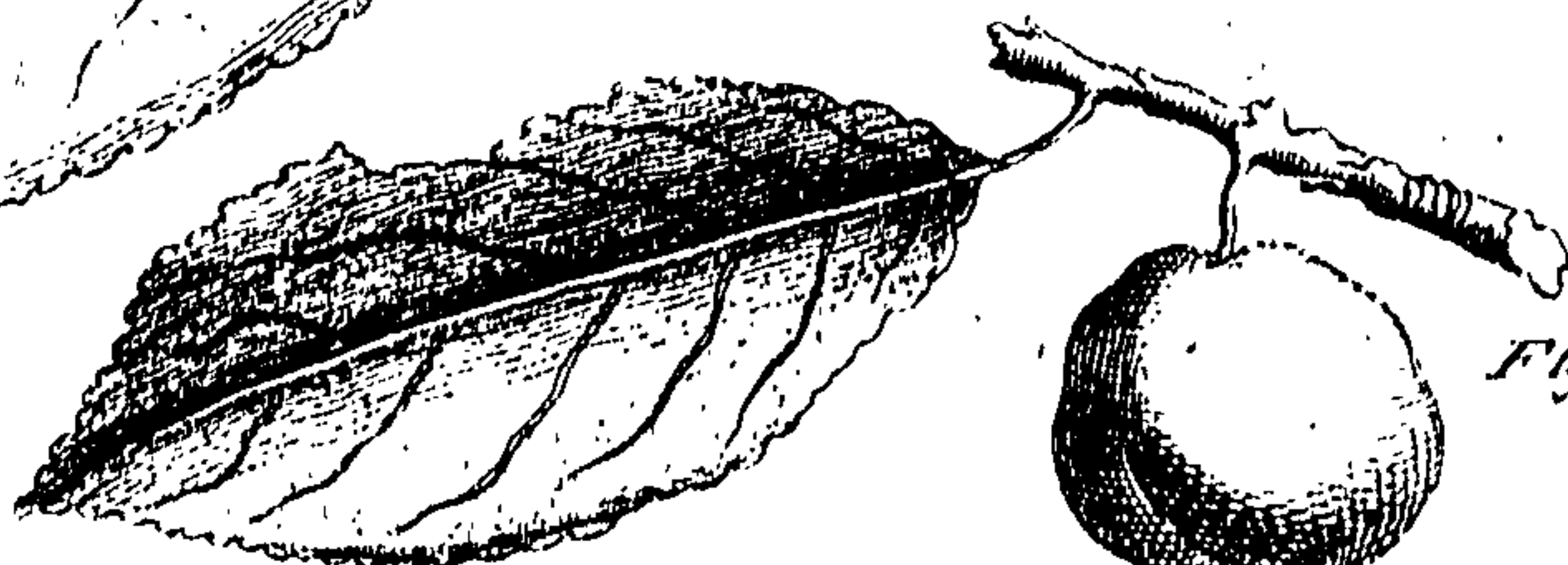


Fig. VIII.



White Mirabile July. 20. 1727.
on a Standard.

White
Matchless.
July 24.
West wall.

Plate XXIII.

PLUMPS.

Black Damofine. July 25.
East wall.

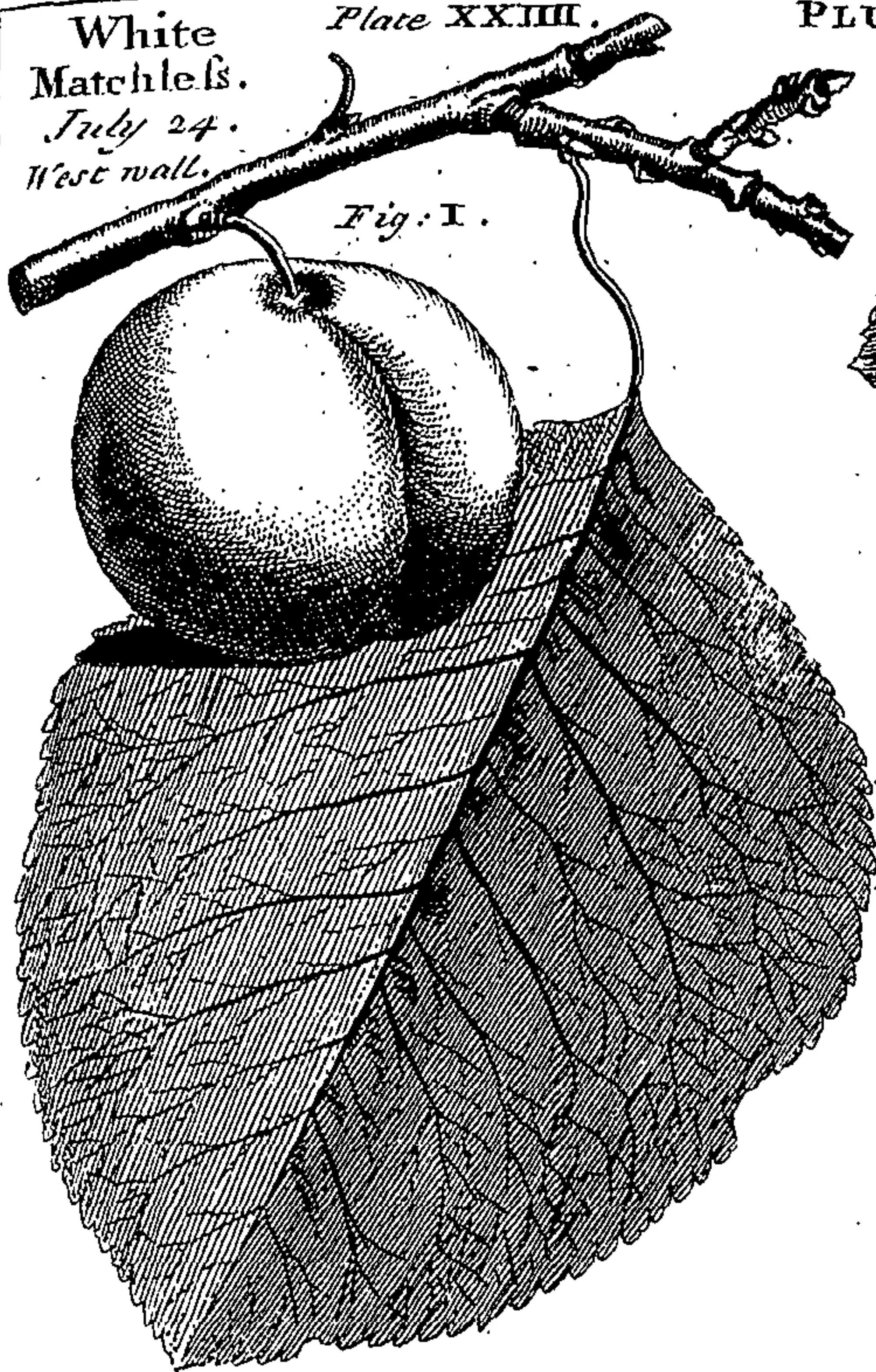


Fig. I.

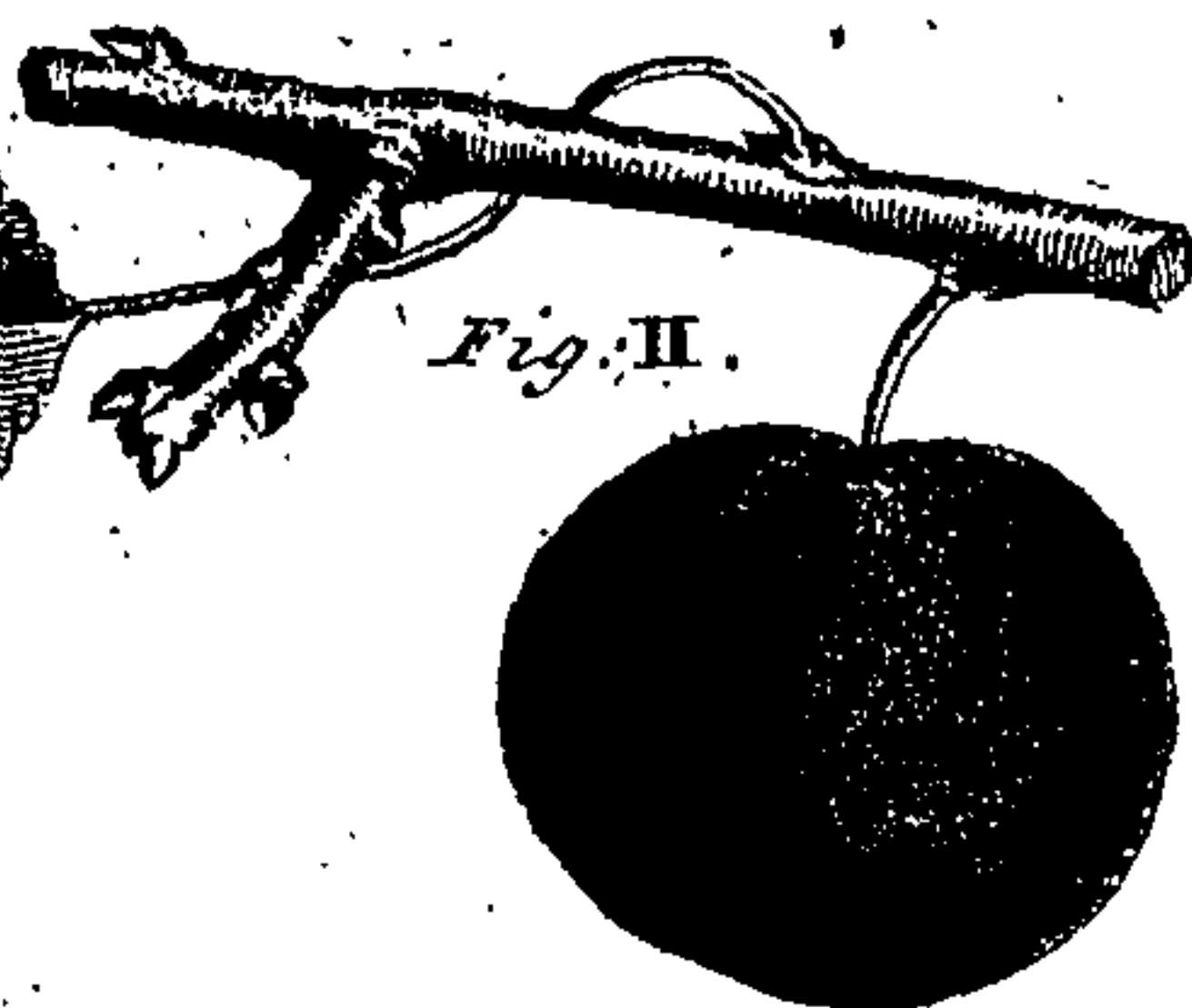
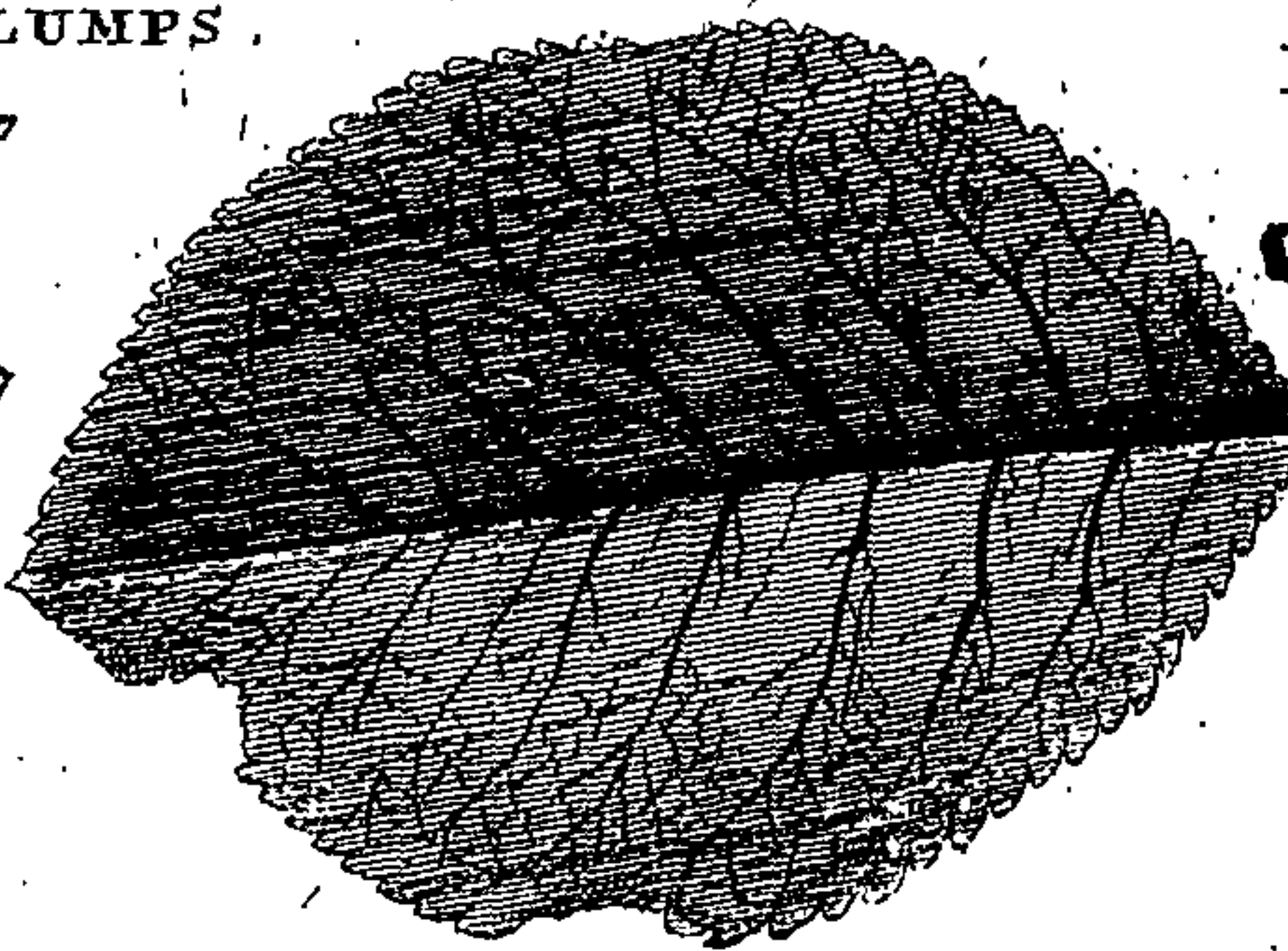


Fig. II.

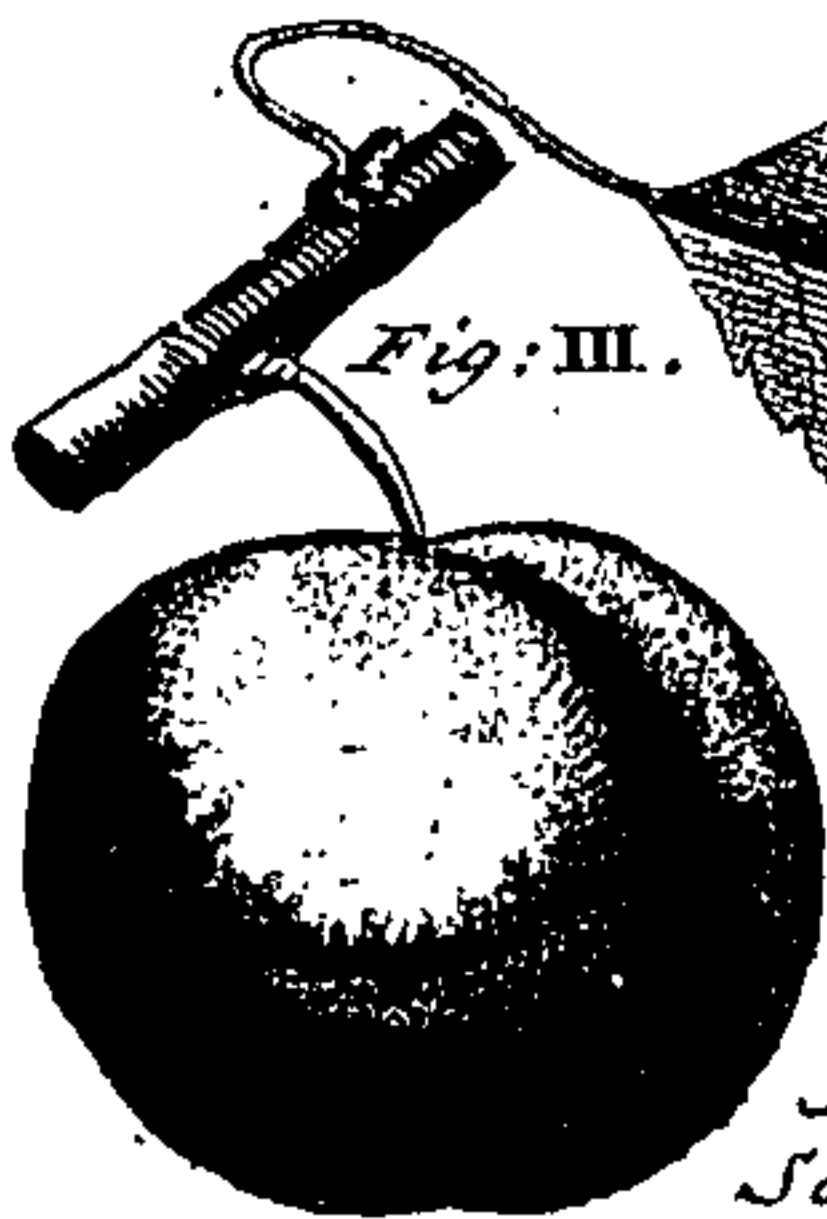
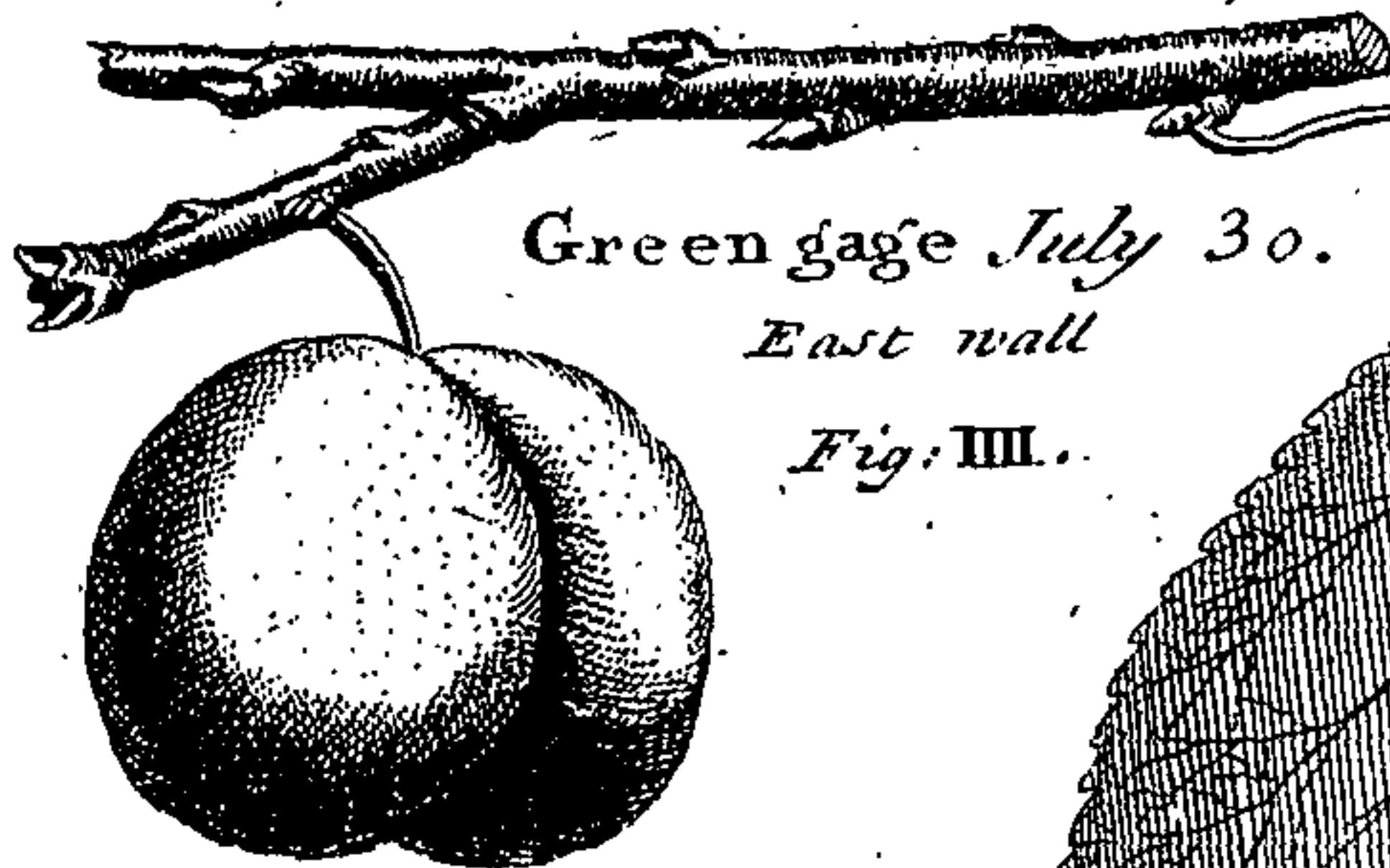
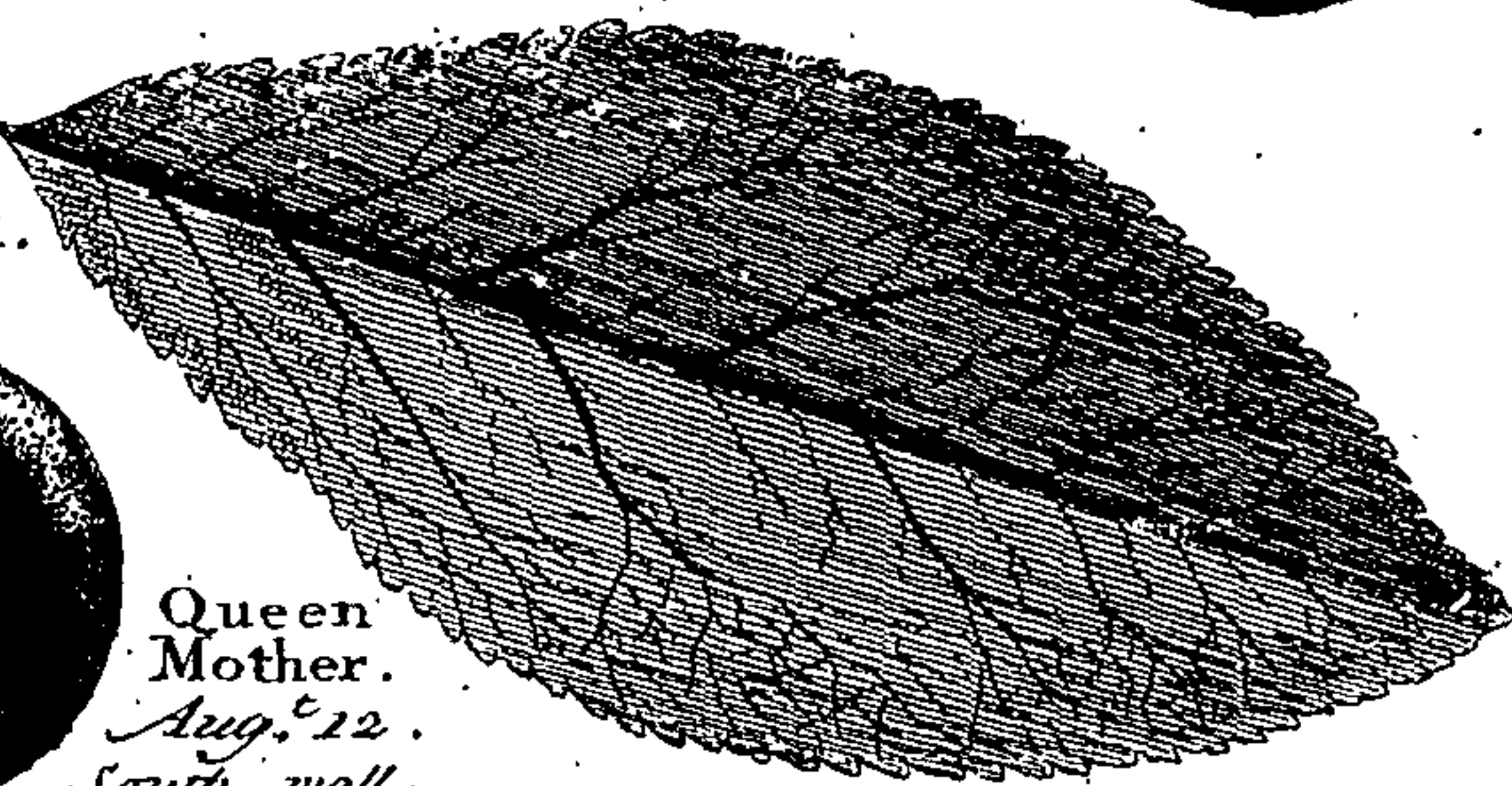


Fig. III.

Queen
Mother.
Aug. 12.
South wall.



Green gage July 30.

East wall

Fig. III.

Drab'dor.
July 20.

Fig. V.

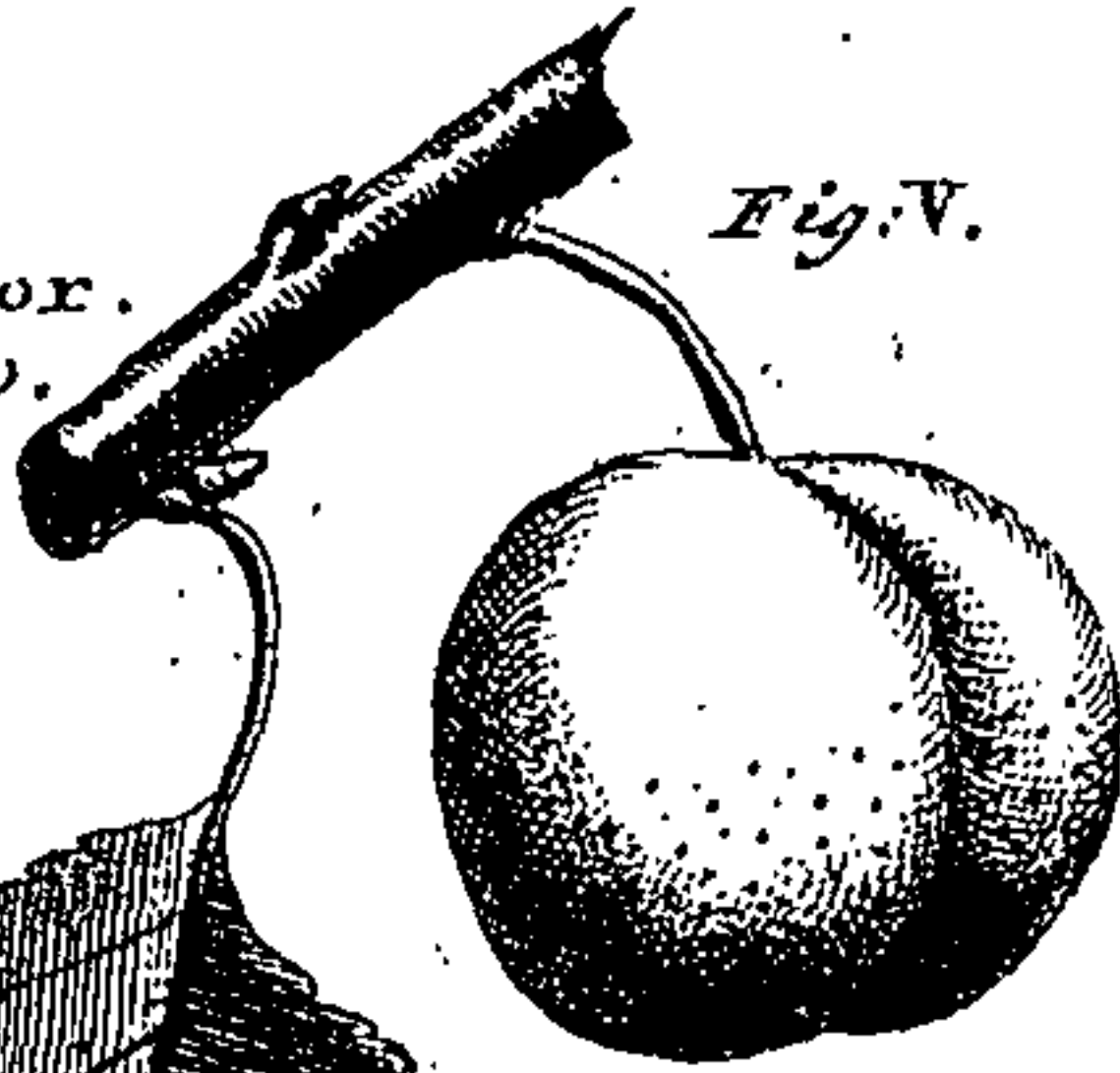


Fig. VI.

St Catherine
Aug. 12. S.E. 20 Deg.

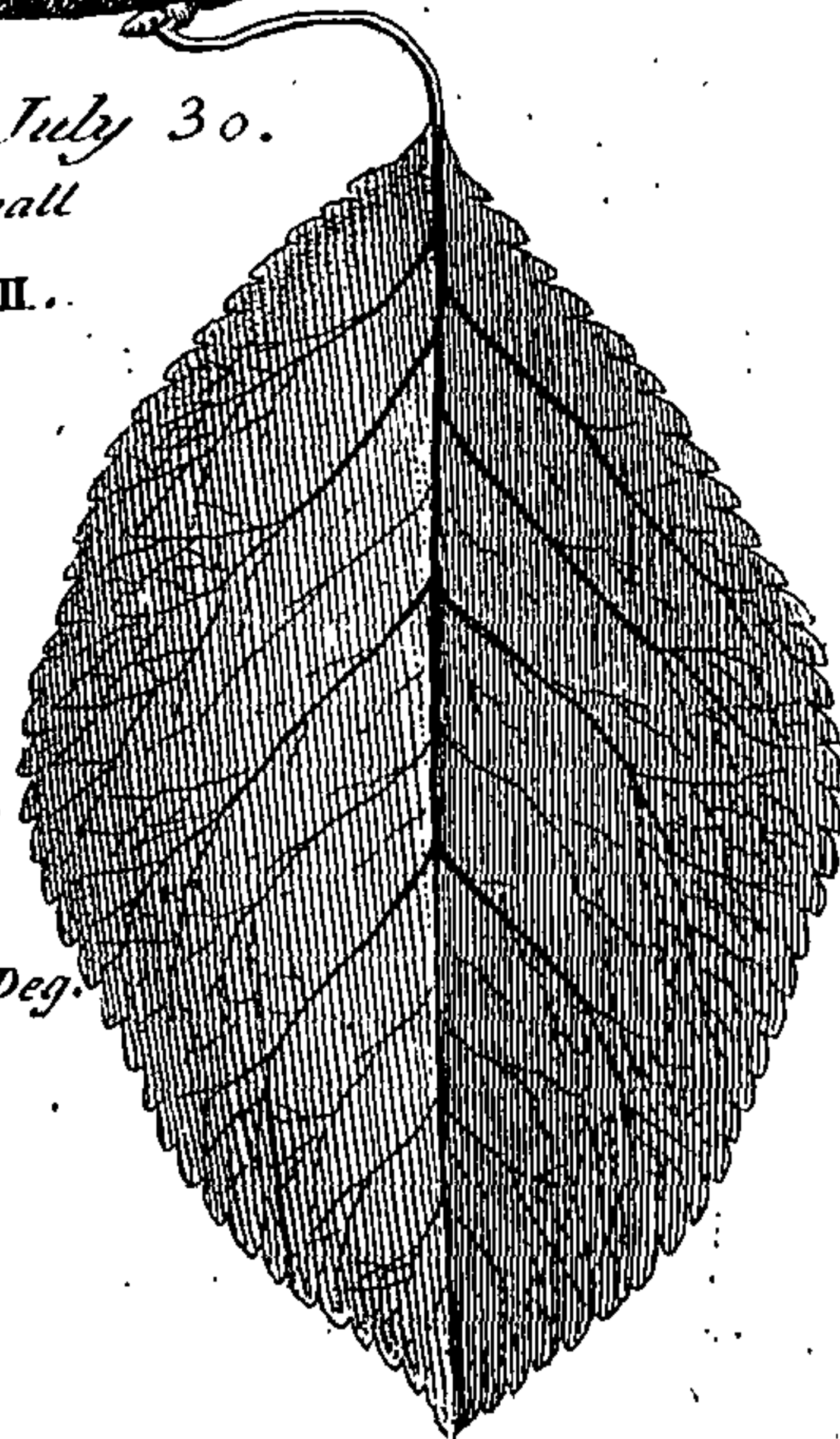


Fig. VII.

Yellow
Diapree
Aug. 6. East wall

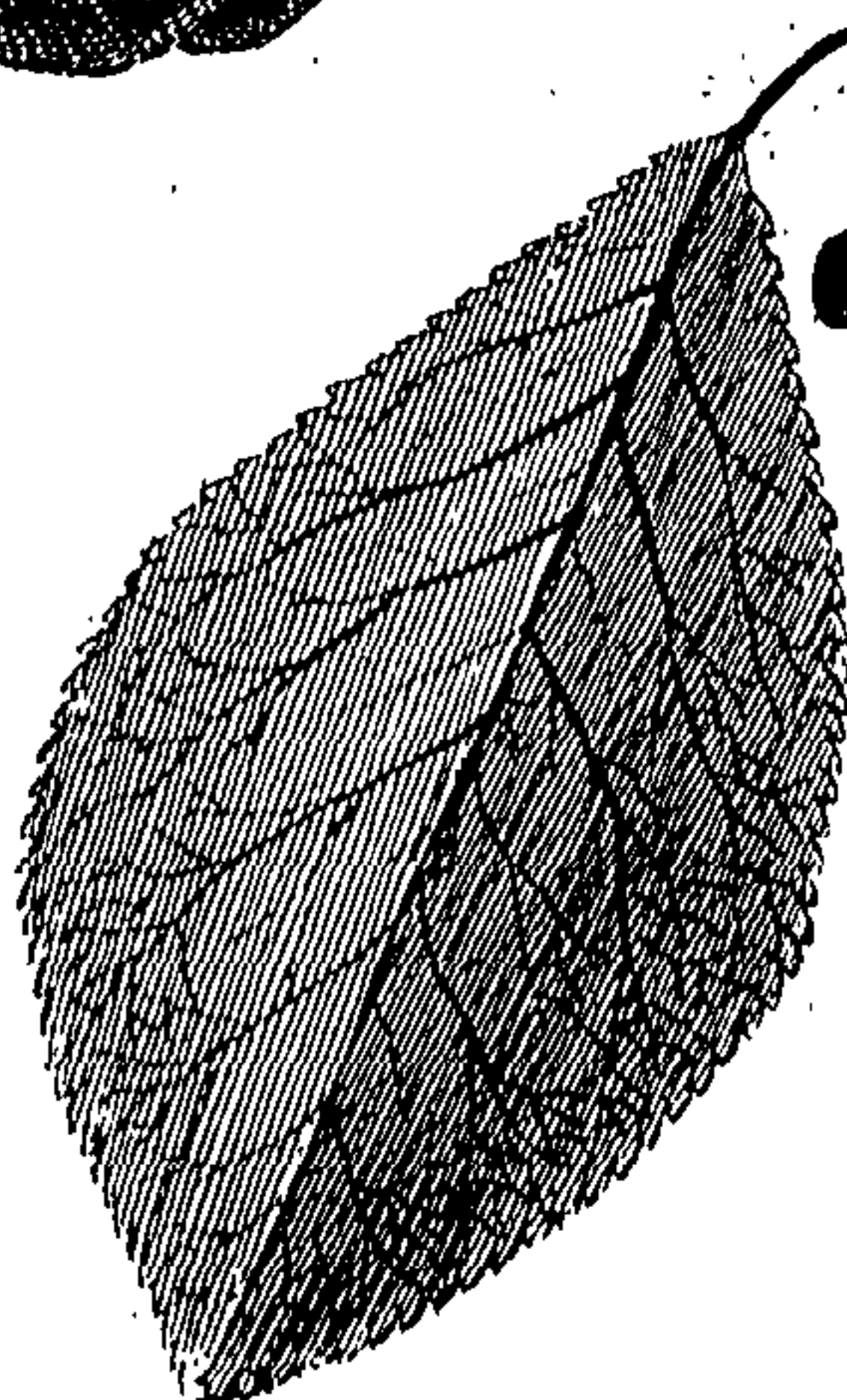
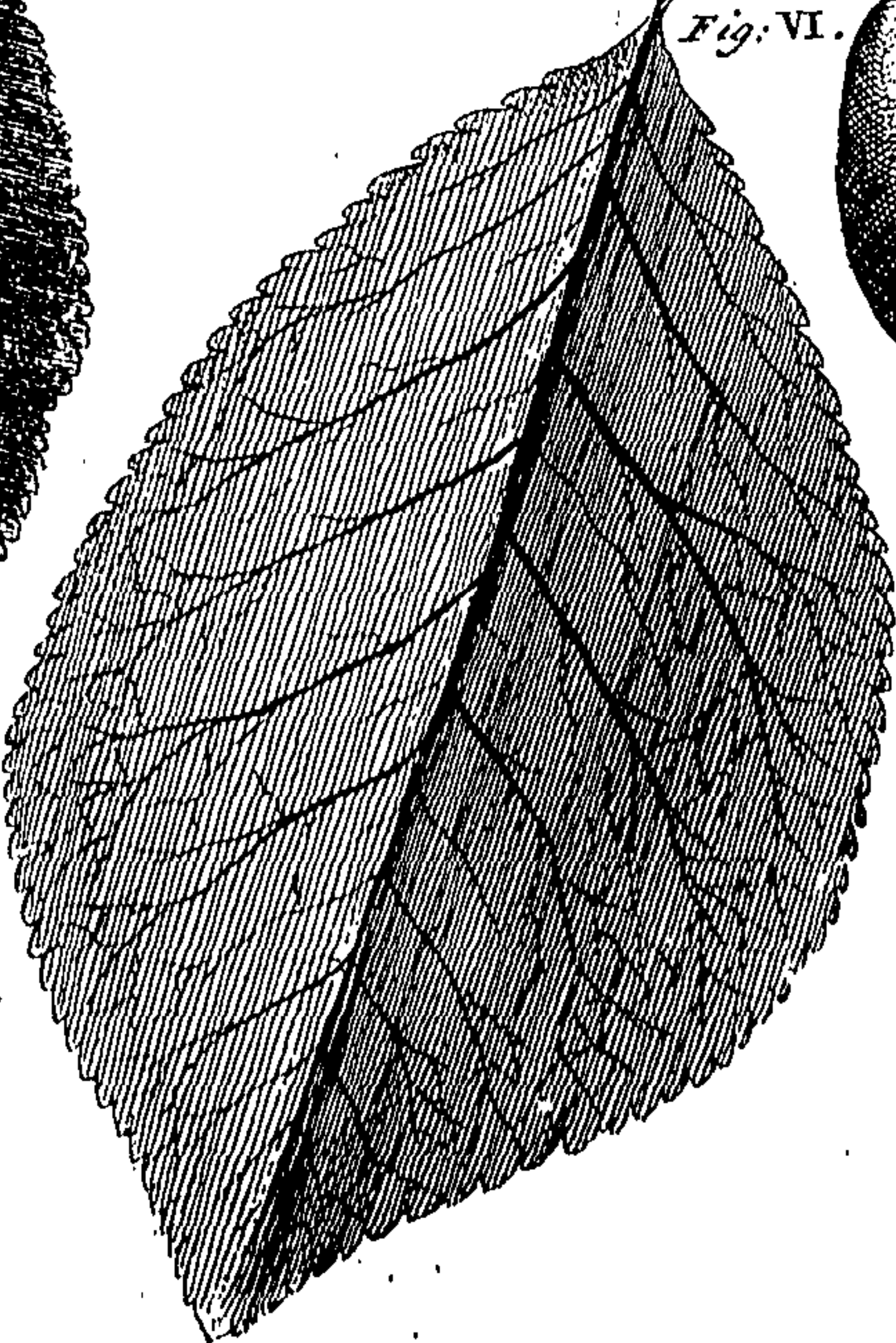
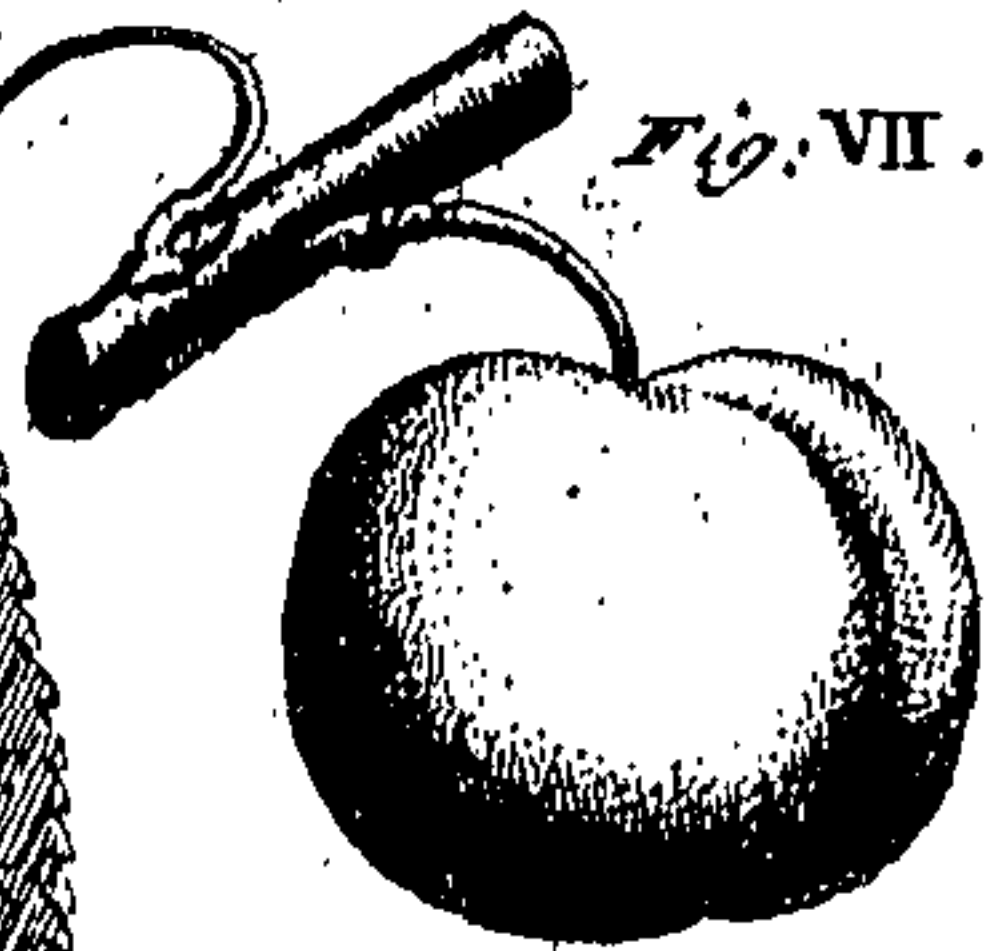
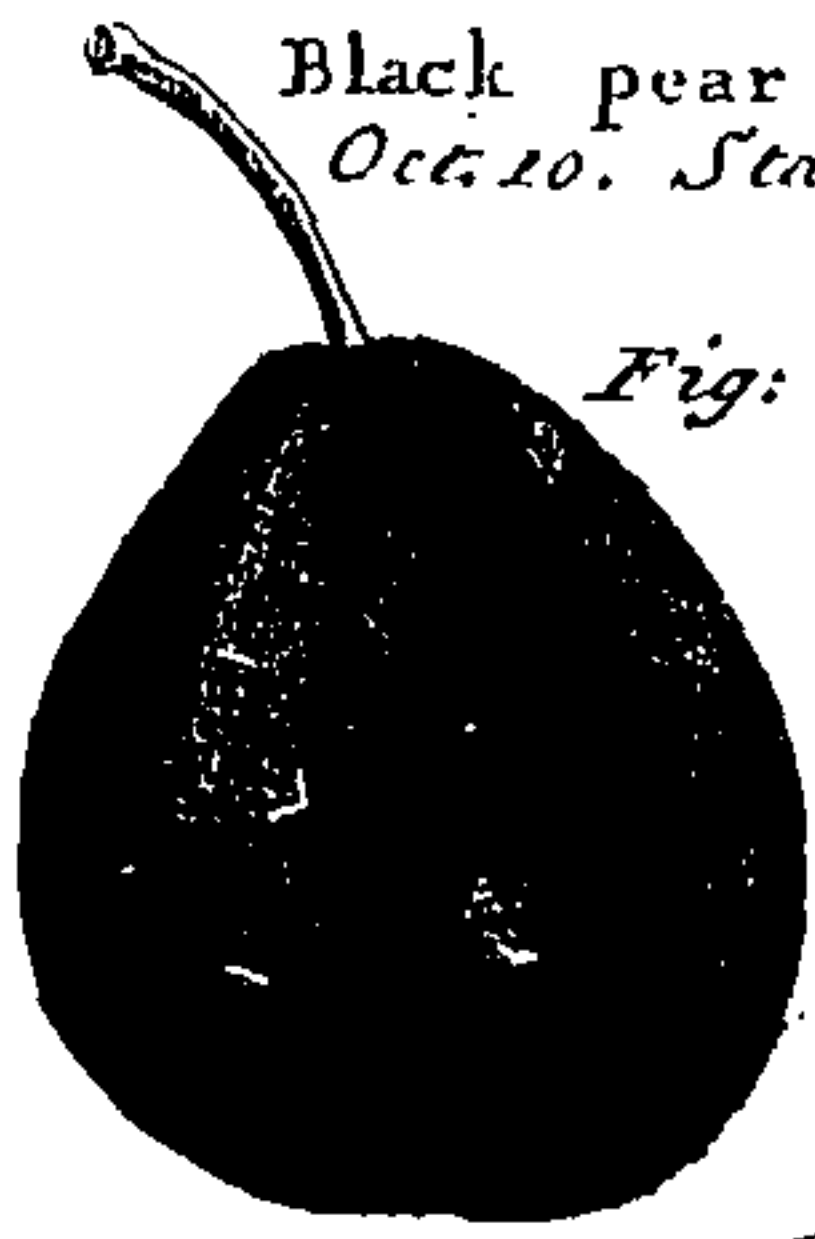


Plate XXV.

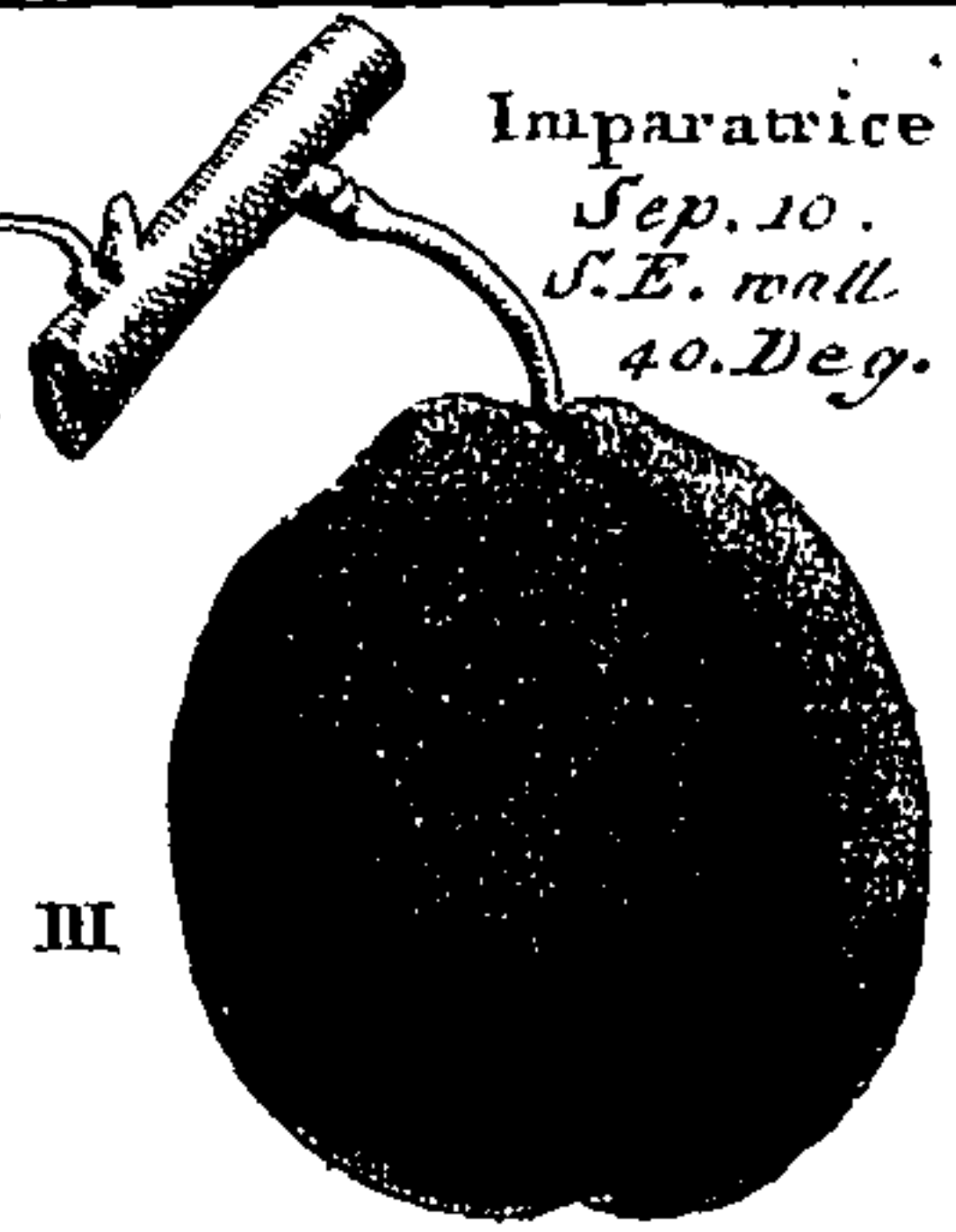
Black pear plumb.
Oct. 20. Standard.

Fig: II.



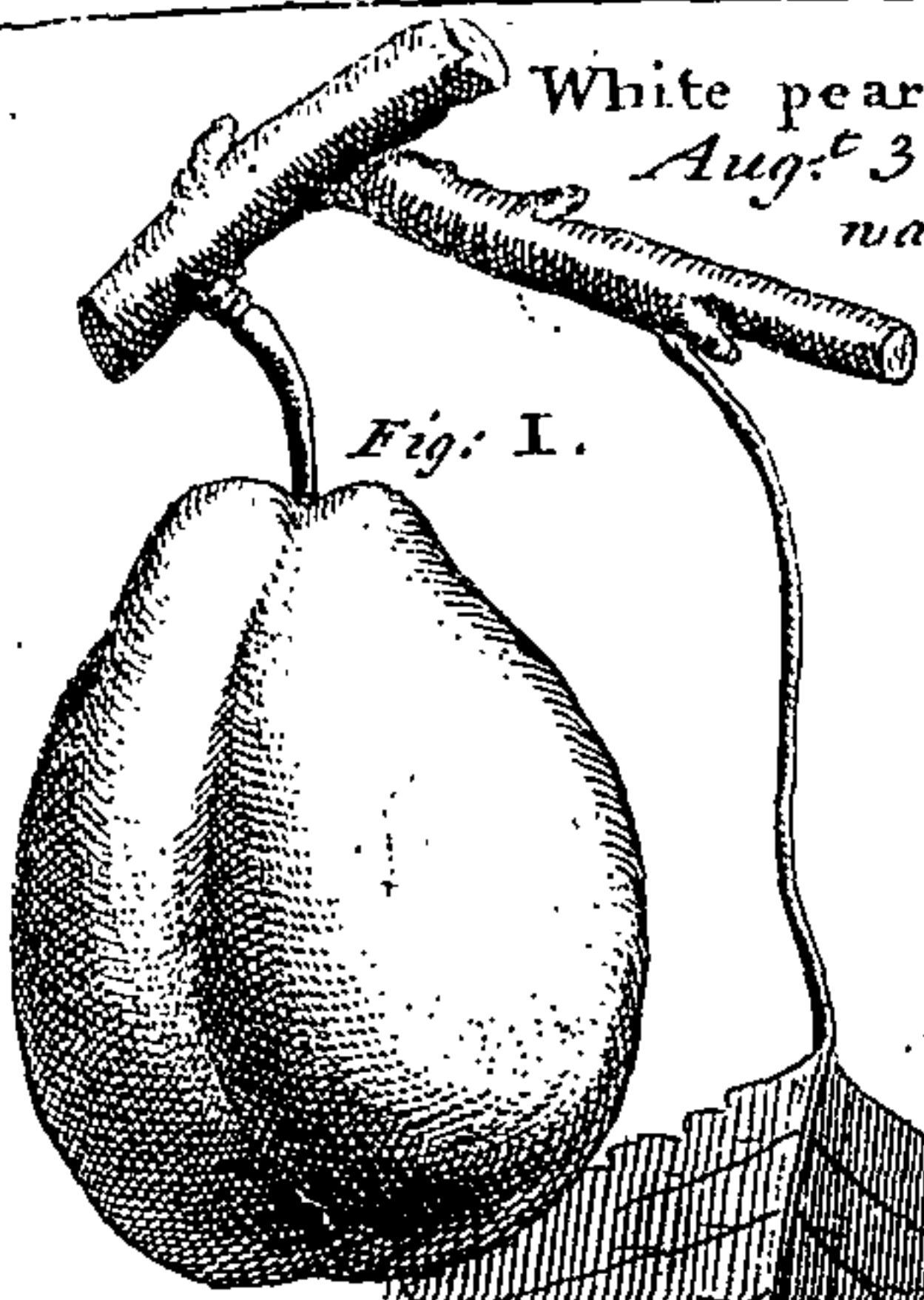
Imparatrice
Sep. 10.
S.E. wall
40. Deg.

Fig III



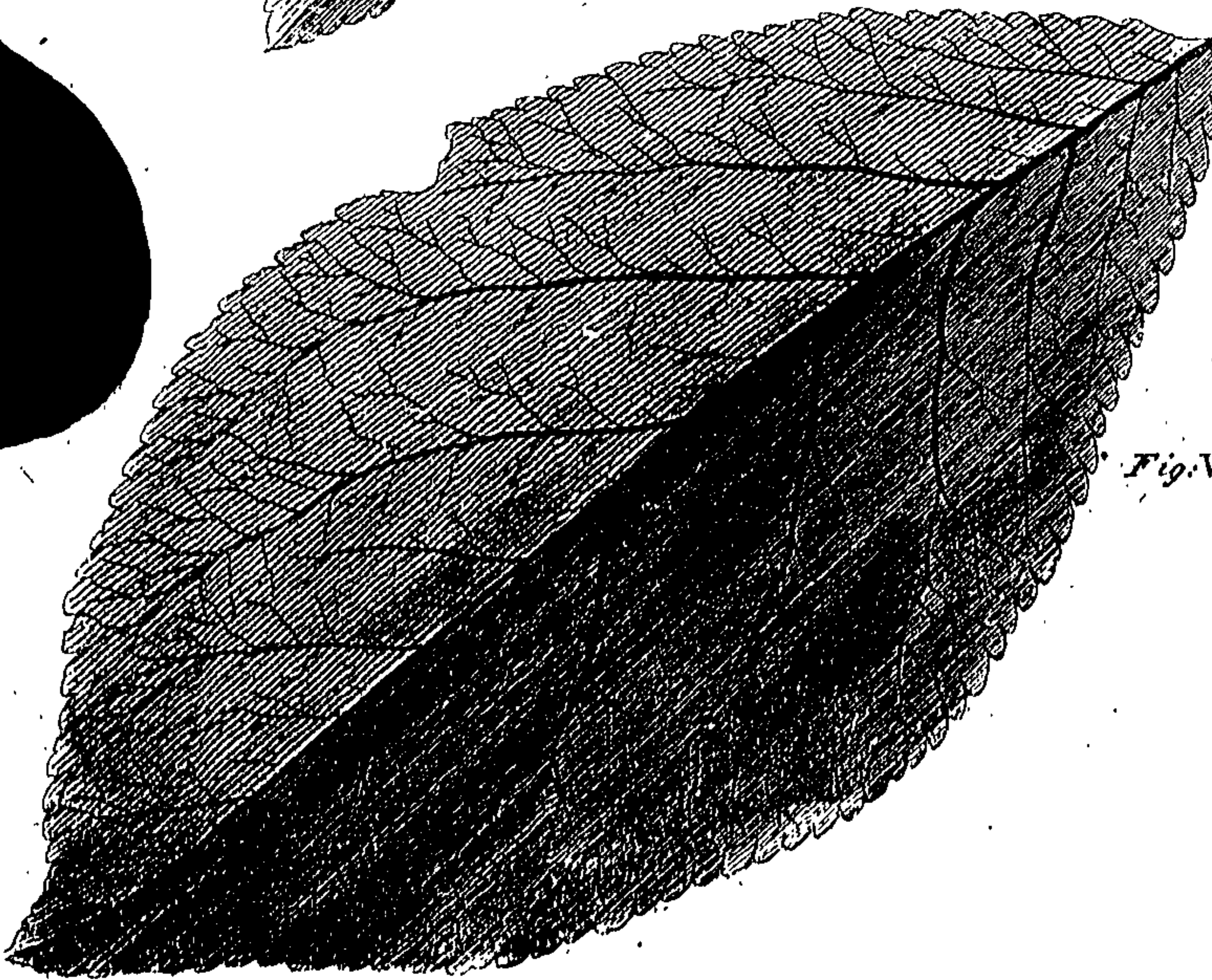
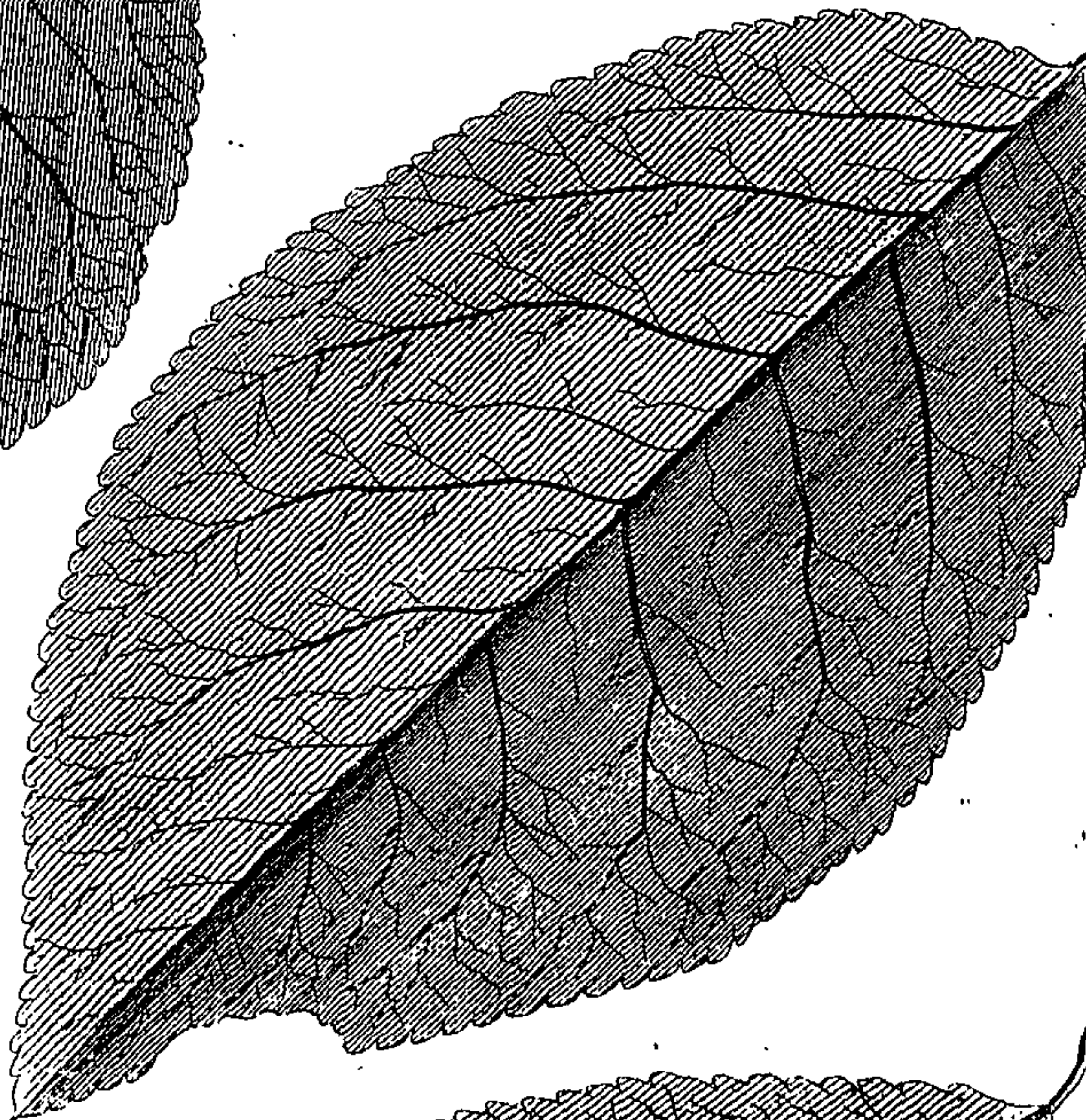
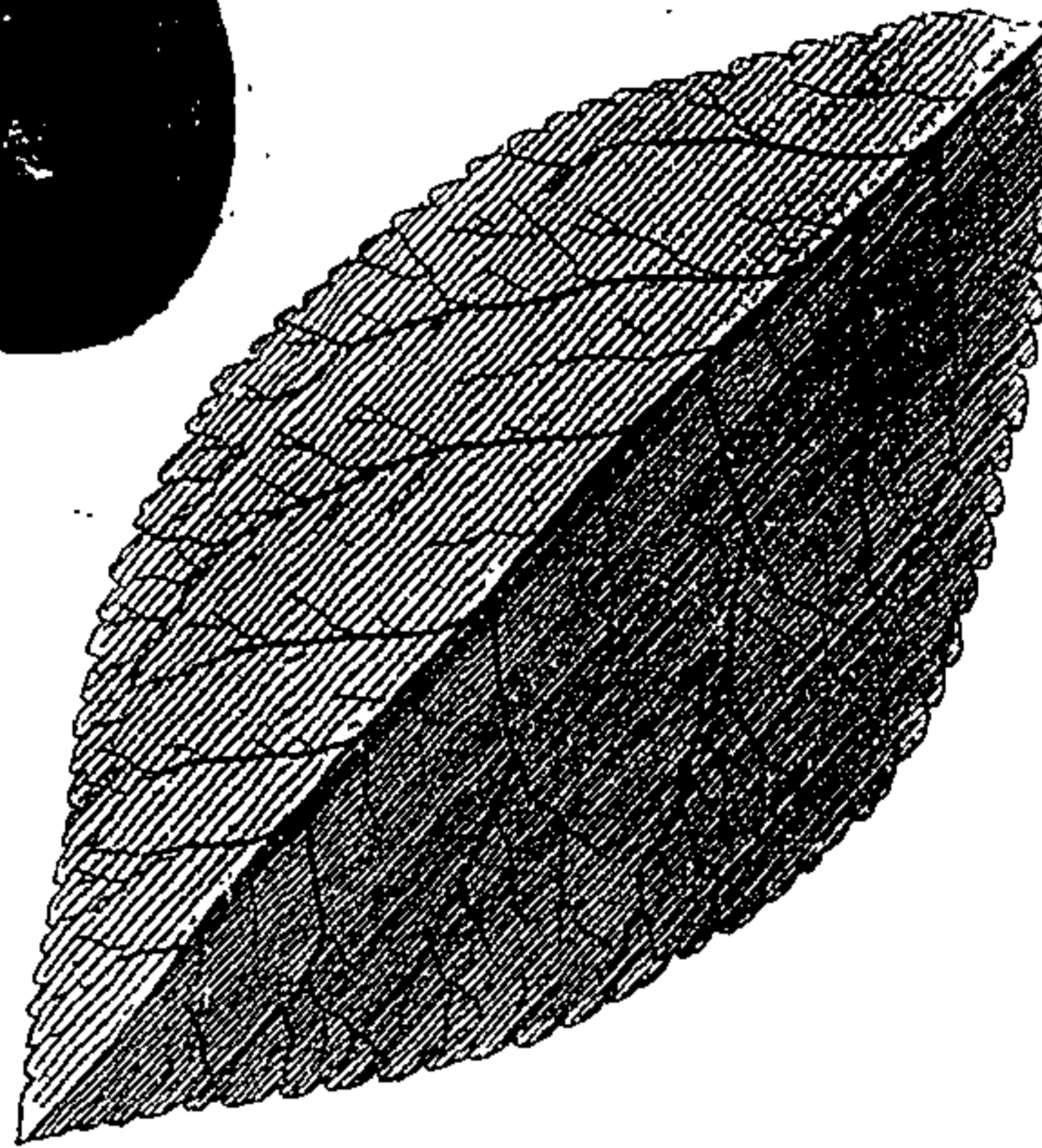
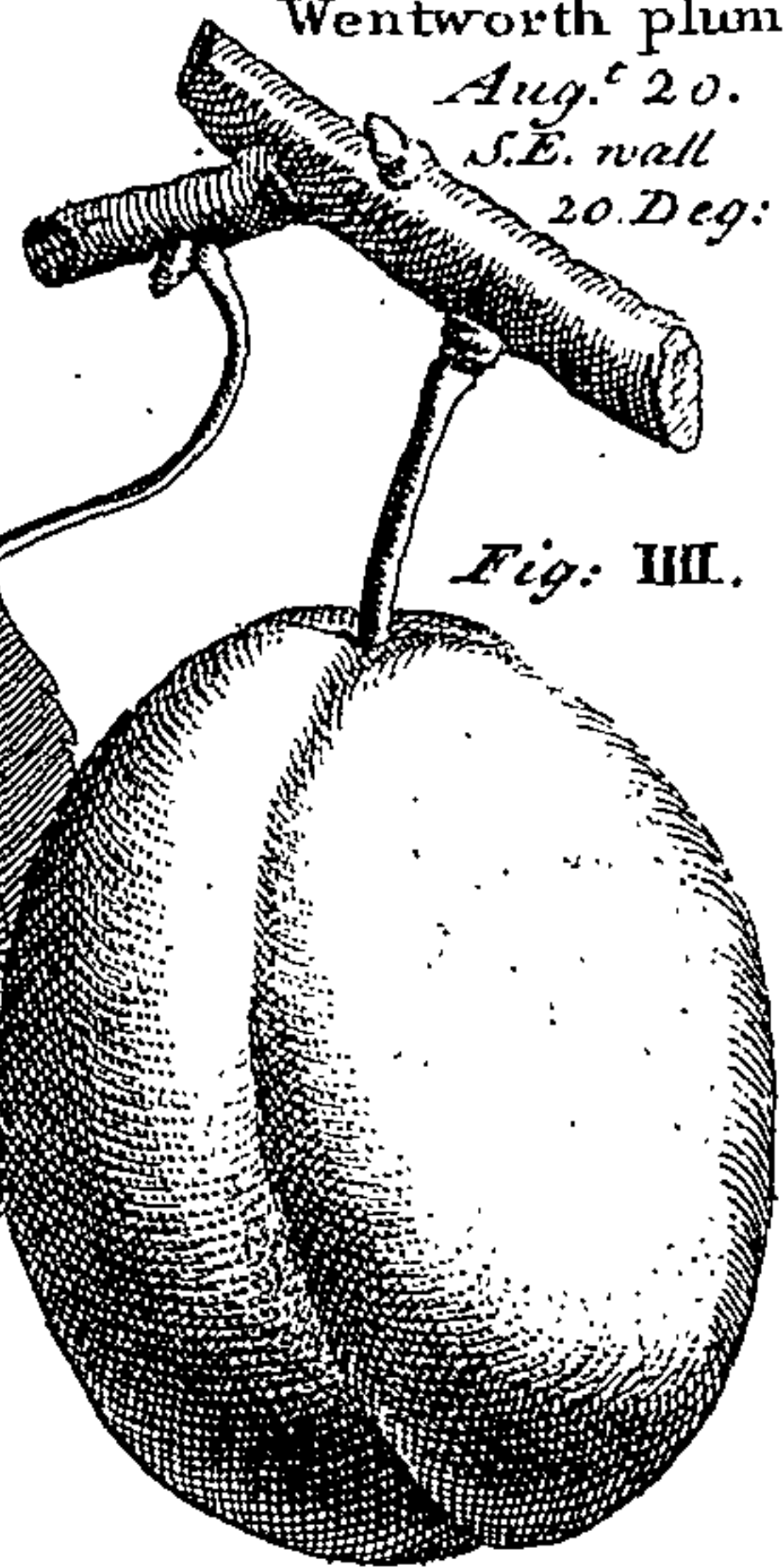
White pear plumb
Aug. 30. North:
wall.

Fig: I.



Wentworth plumb
Aug. 20.
S.E. wall
20. Deg:

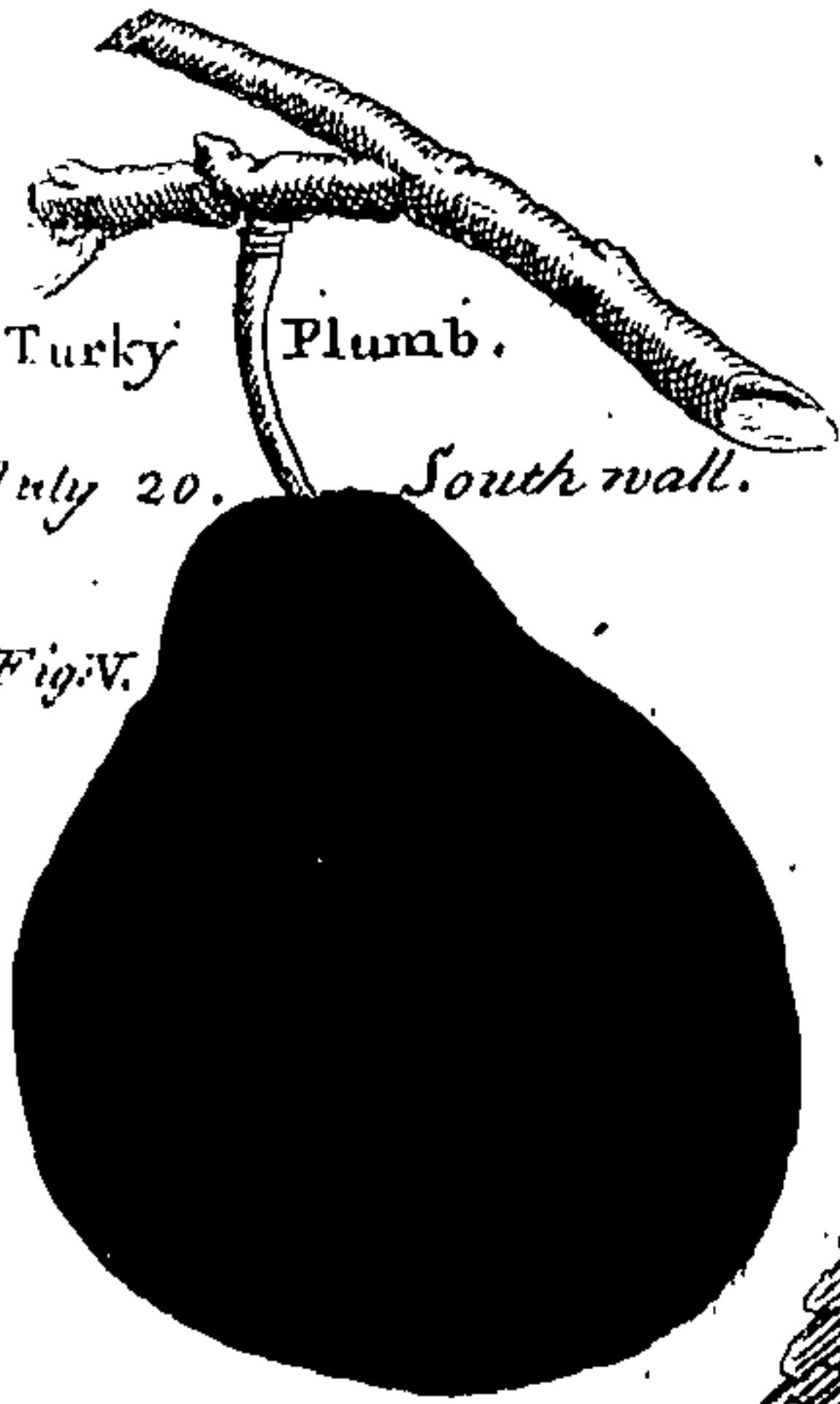
Fig: III.



Turky Plumb.

July 20. South wall.

Fig: V.



Mogule.
Aug. 20.
S.E. wall
20. Deg.

Fig: VI.

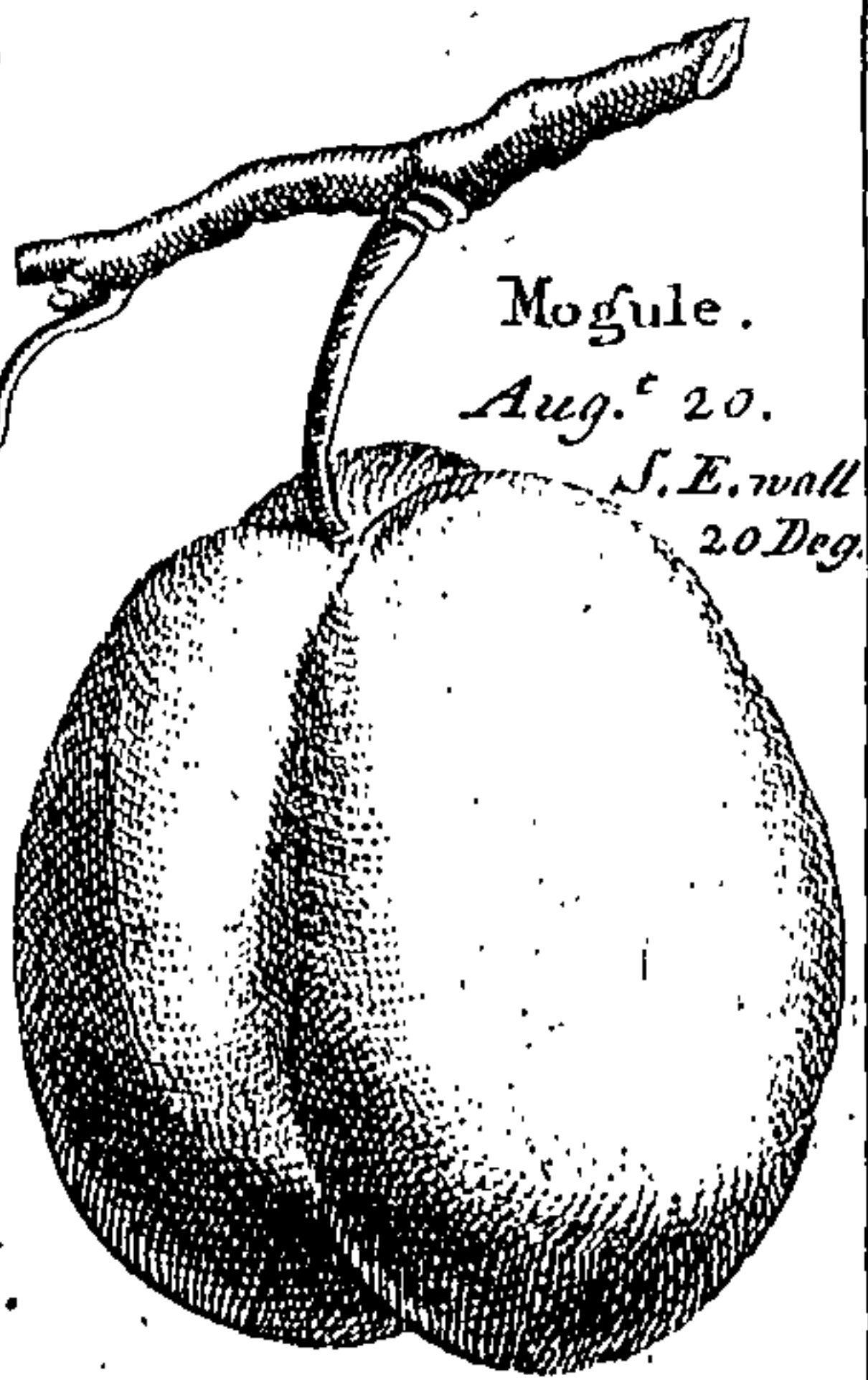




Fig. I.
Raspberry in Blossom
• May. 11.



Catherine Peach
May. 3. 1727.

Fig. III.



Fig. II.



Virgoulee Pear
May. 10. 1727.

Fig. IV

Virgoulee

The nearest distance that Peaches should grow to ripen in the best perfection

Fig. I.

White
Nutmeg

June. 15. 1727.
S. Wall.

Annpeach

July. 10. 1727.

S. Wall.

Fig. II.

Rozanna.

July. 20. 1727. S. Wall.

Fig. III.

Tuteond Venice

July. 20. 1727. S. Wall.

Fig. III.

Red Magdalene,

July. 20. 1727. S. Wall.

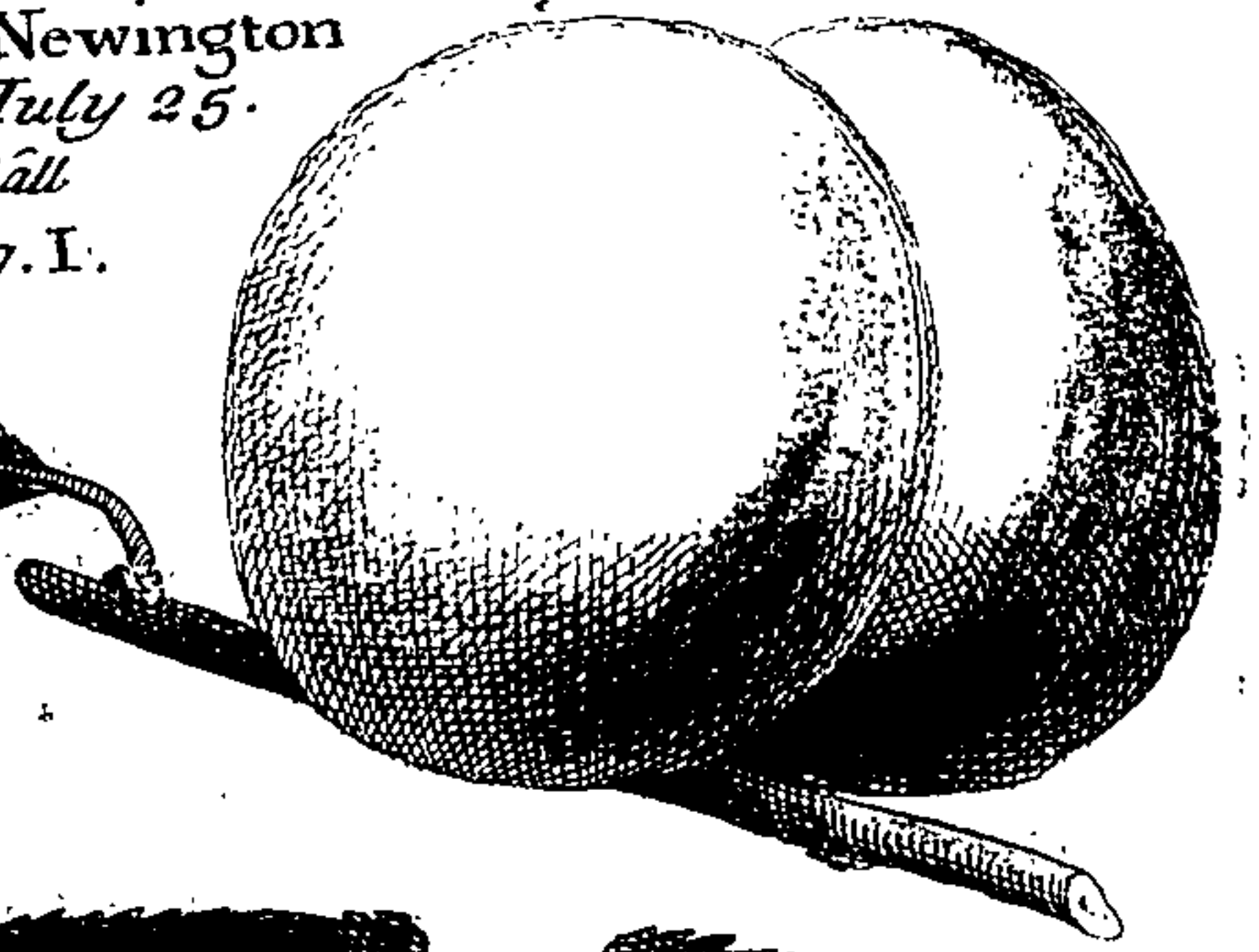
Fig. V.

White Magdalene

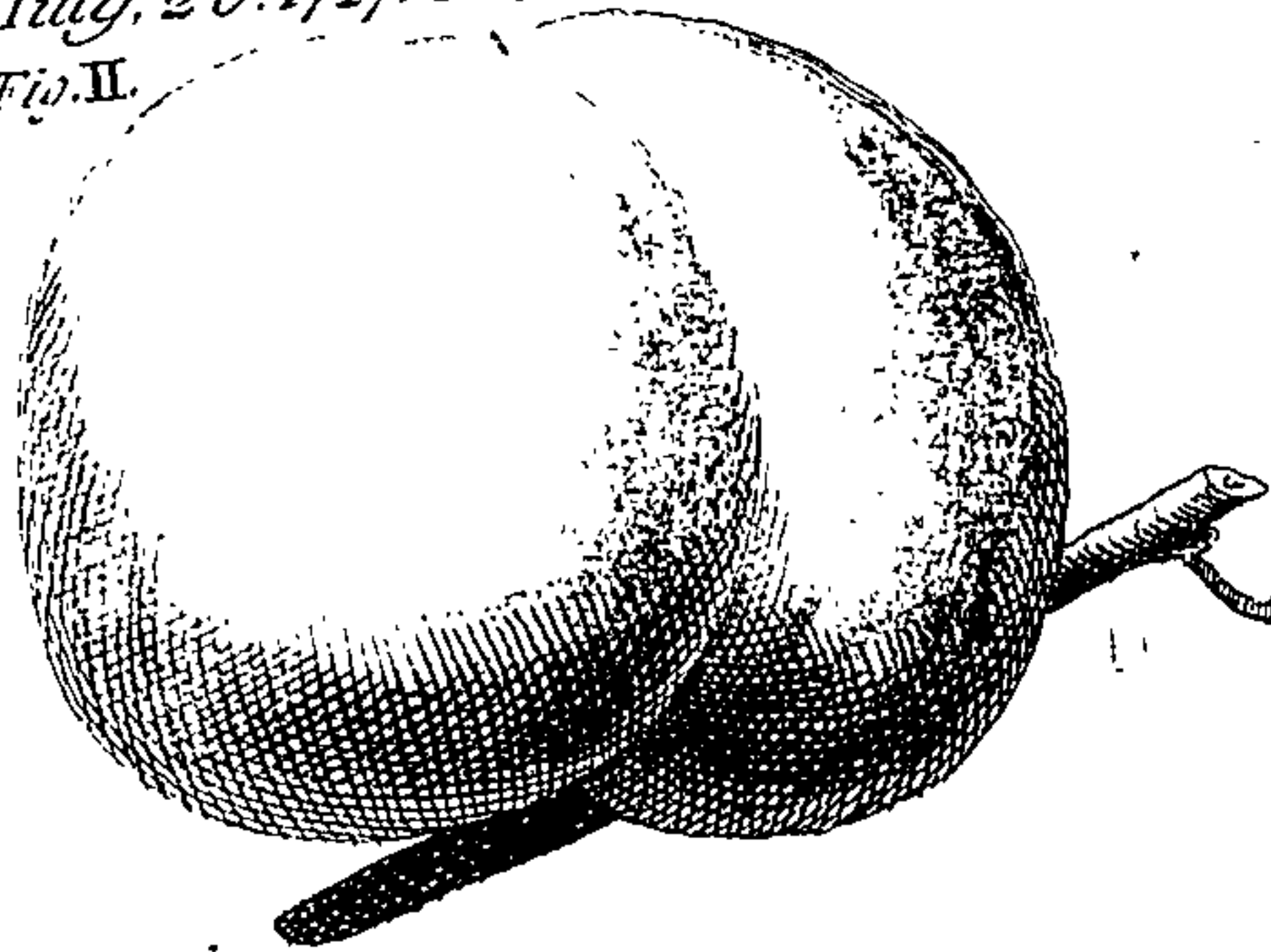
July. 20. 1727. W. Wall.

Fig. VI.

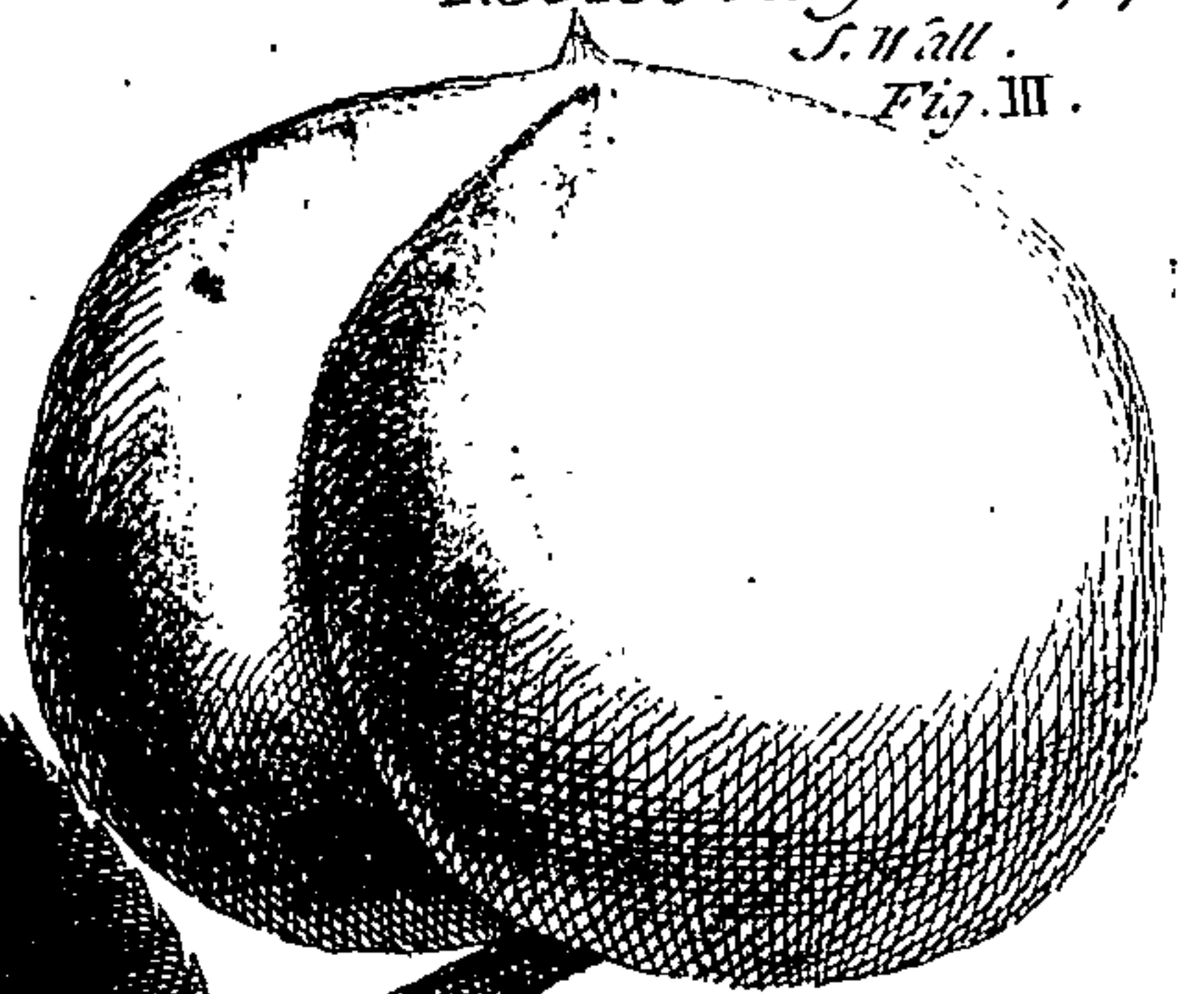
Smiths Newington
July 25.
S. Wall
Fig. I.



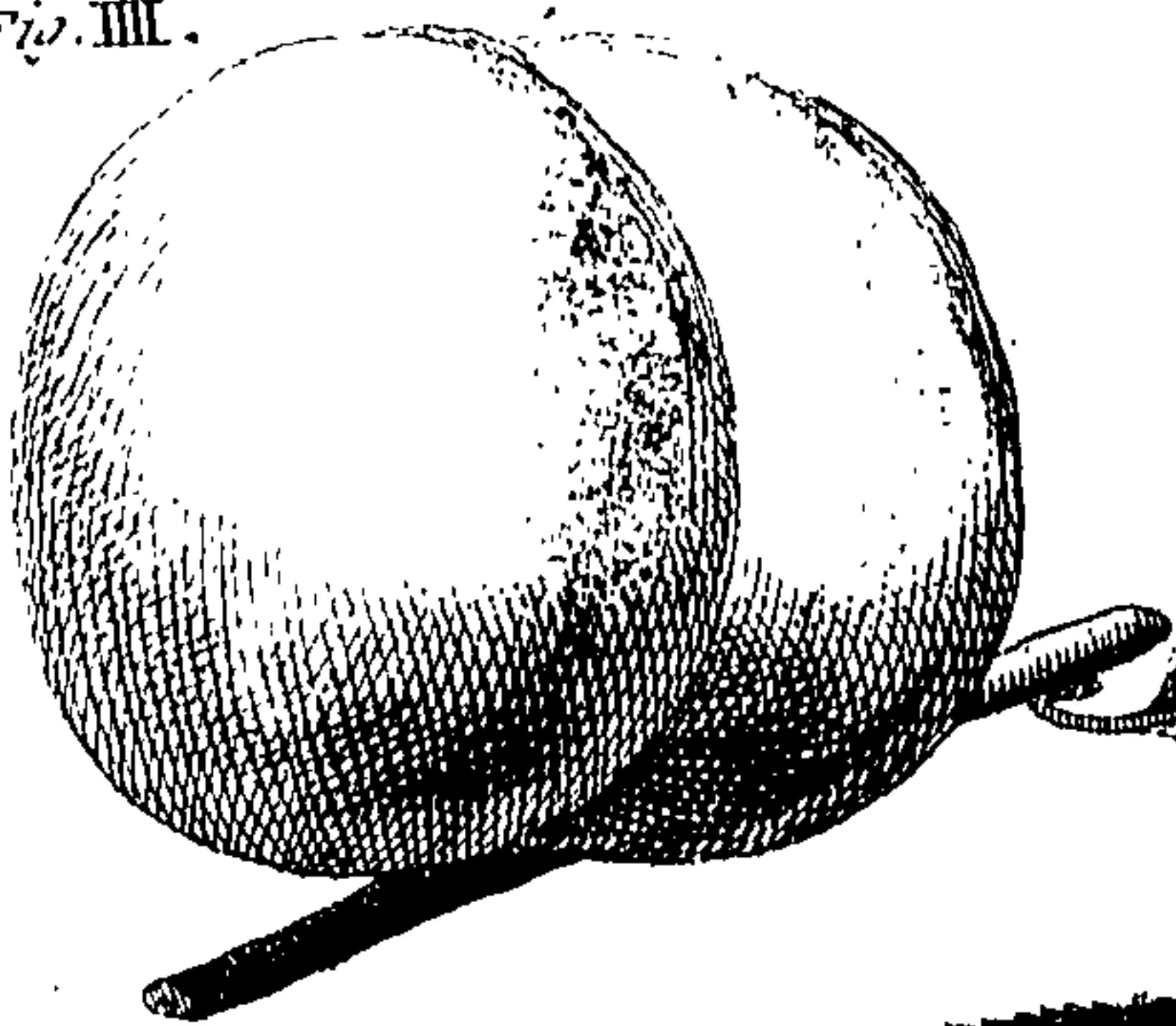
Minion
July 20. 1727. S. Wall
Fig. II.



Nobles July 20. 1727.
S. Wall.
Fig. III.



Montabon
July 30. 1727. S. Wall.
Fig. IIII.



Bordine July 30.
1727. H. Wall.

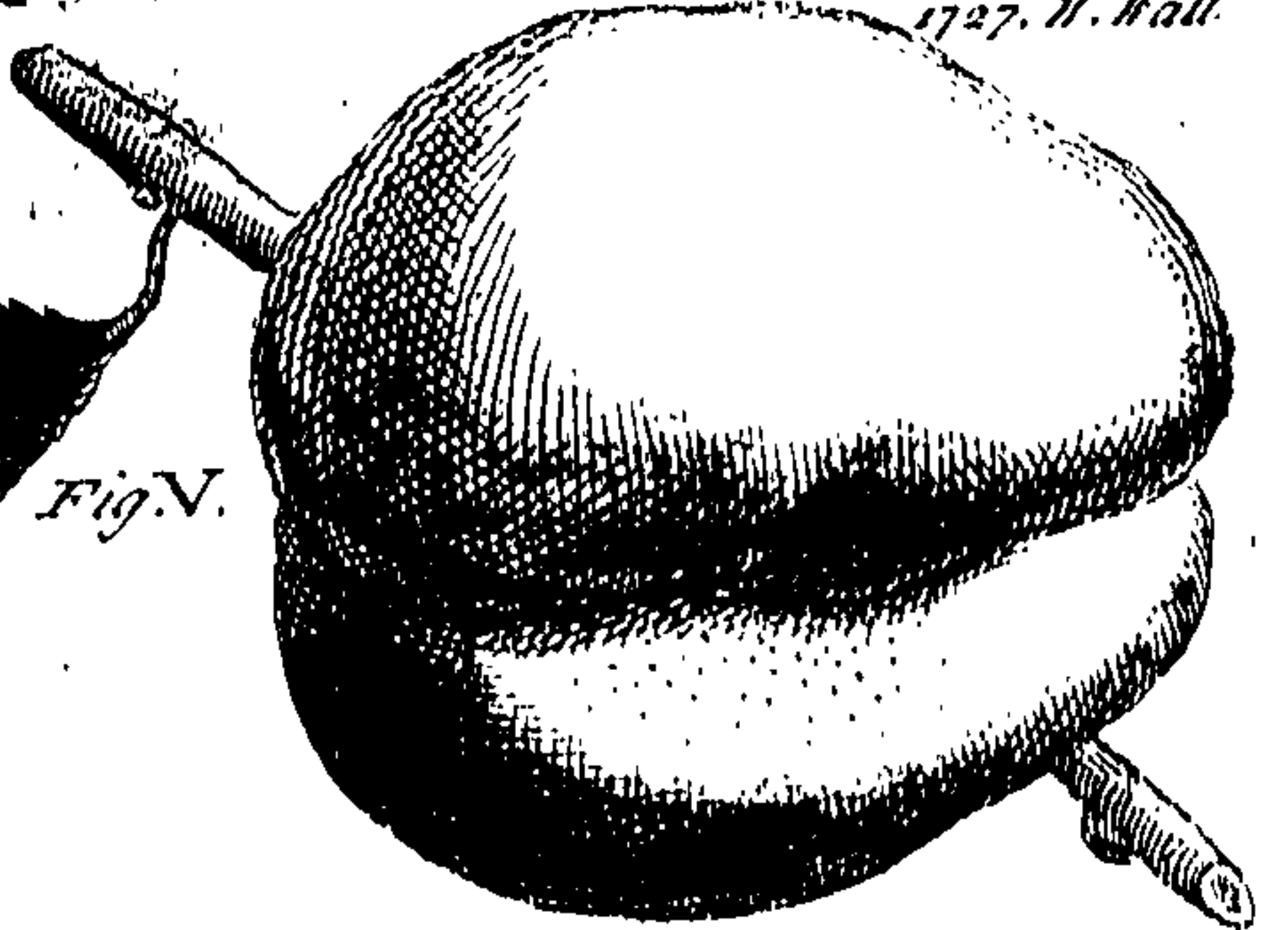
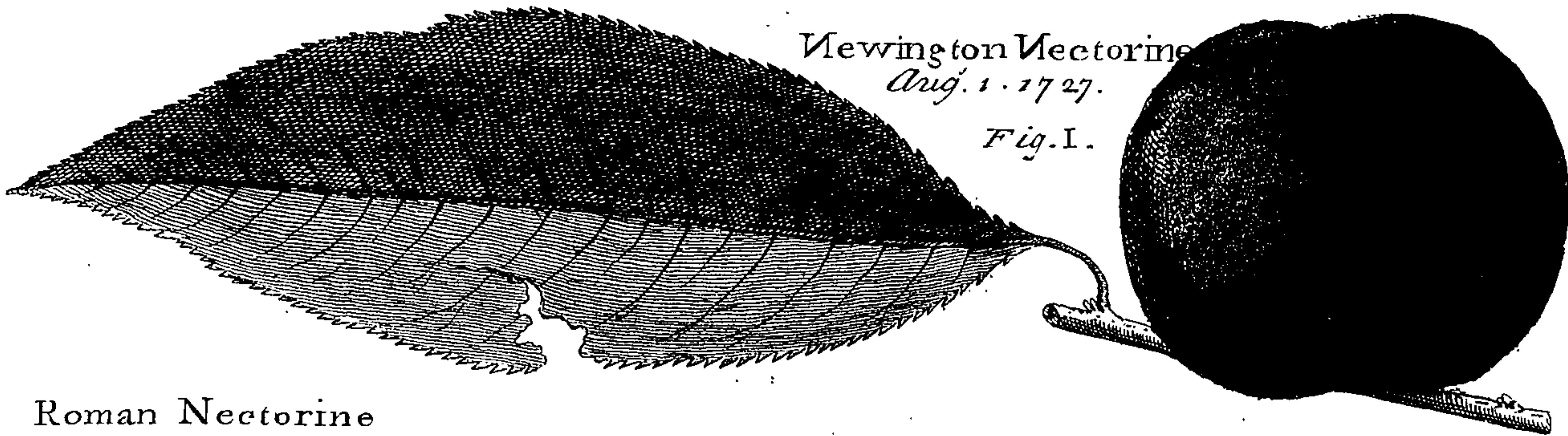


Fig. V.

Wm. Sculp.

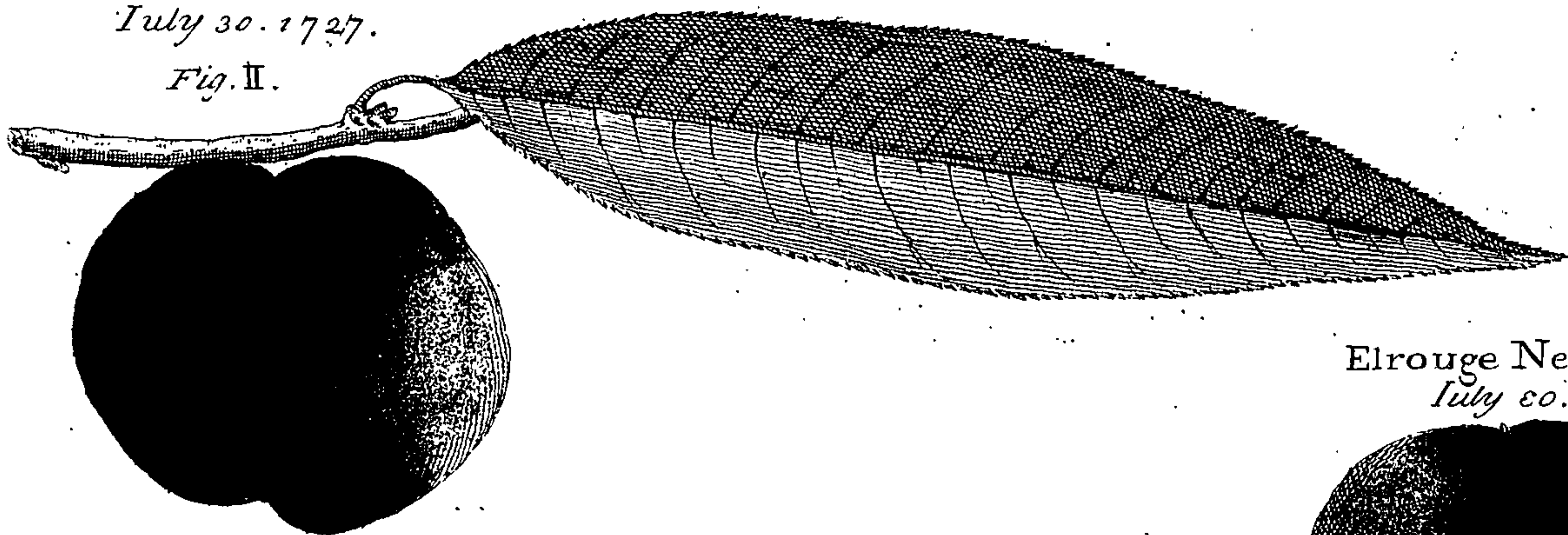
Newington Nectarine
Aug. 1. 1727.

Fig. I.



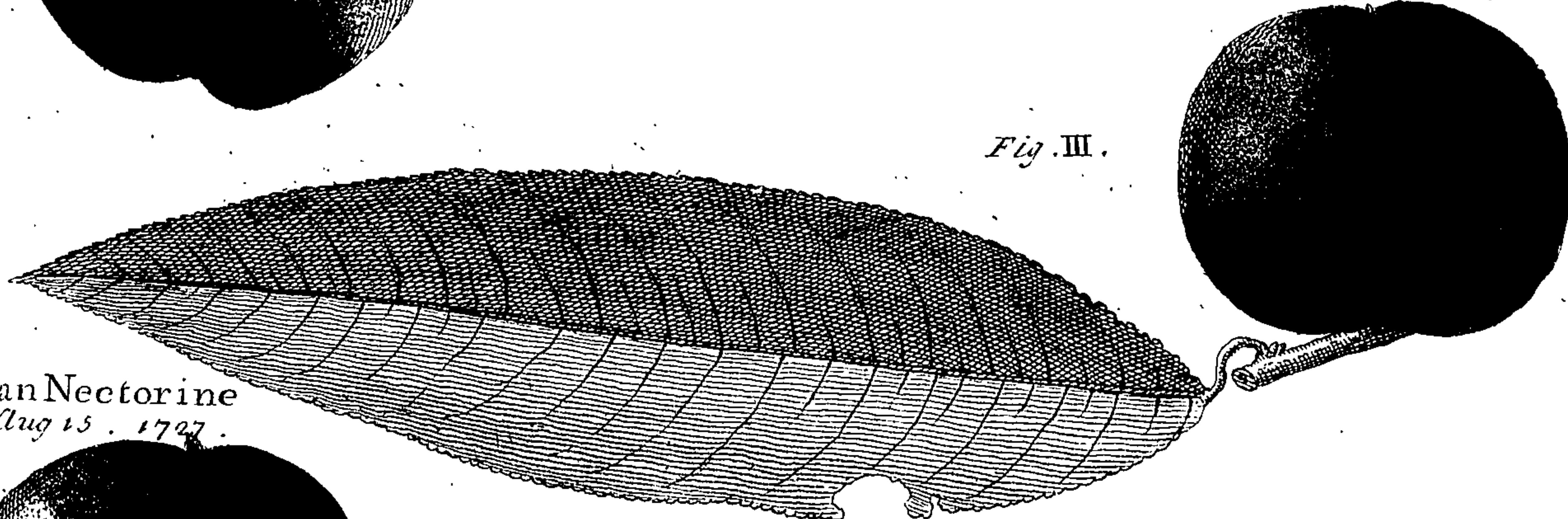
Roman Nectarine
July 30. 1727.

Fig. II.



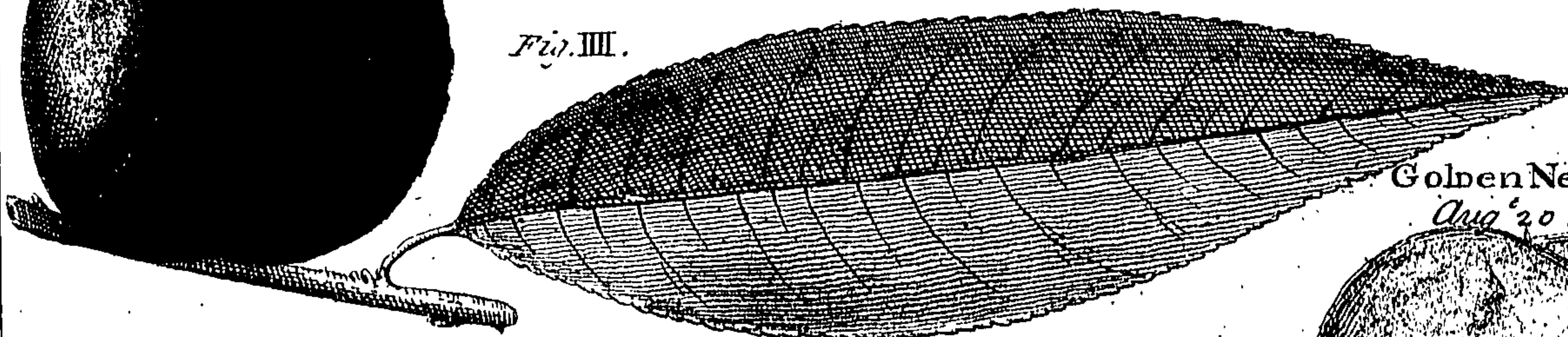
Elrouge Nectarine
July 30. 1727.

Fig. III.



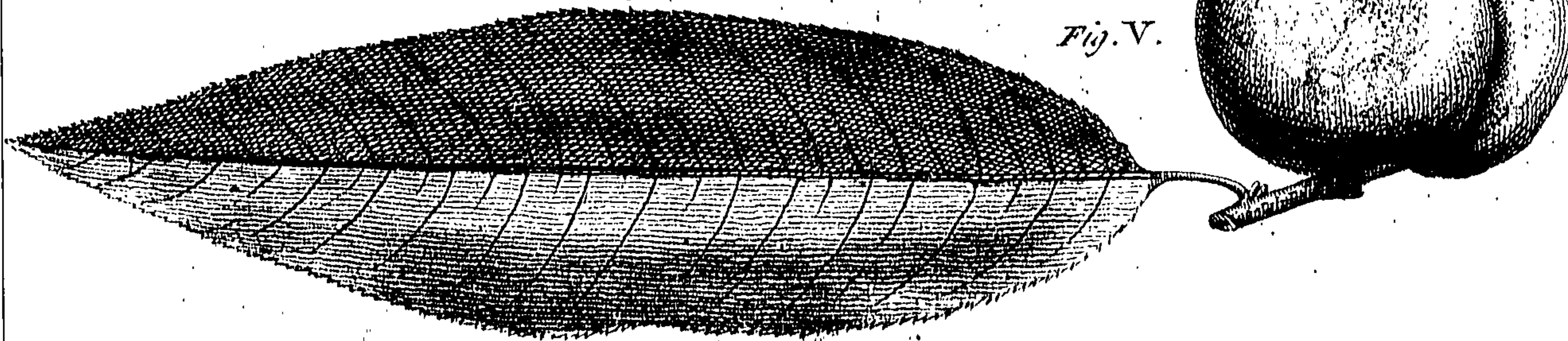
Italian Nectarine
Aug 15. 1727.

Fig. III.



Golden Nectarine
Aug 20. 1727.

Fig. V.

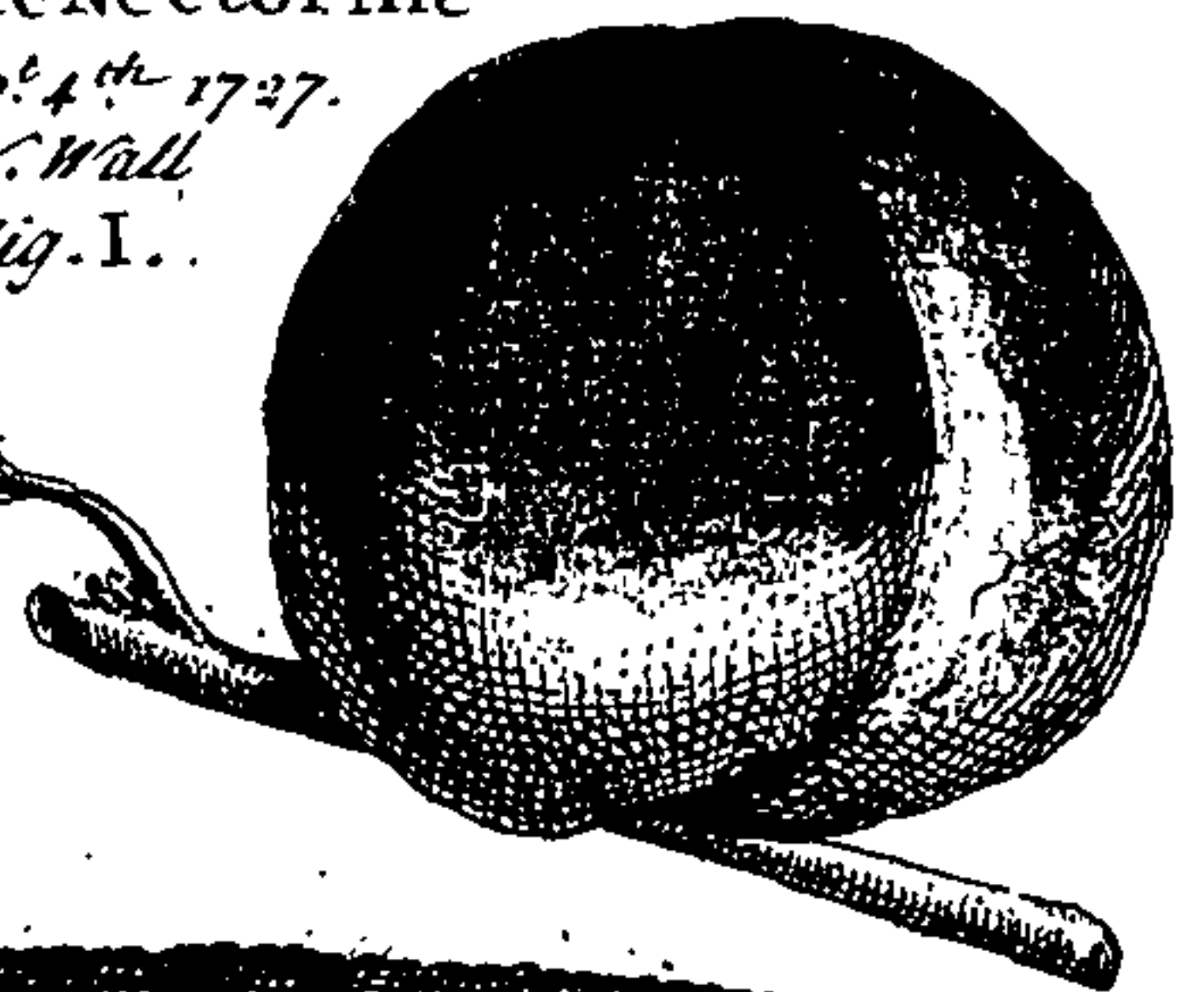


TempleNectarine

Sep^r 4th 1727.

W. Wall.

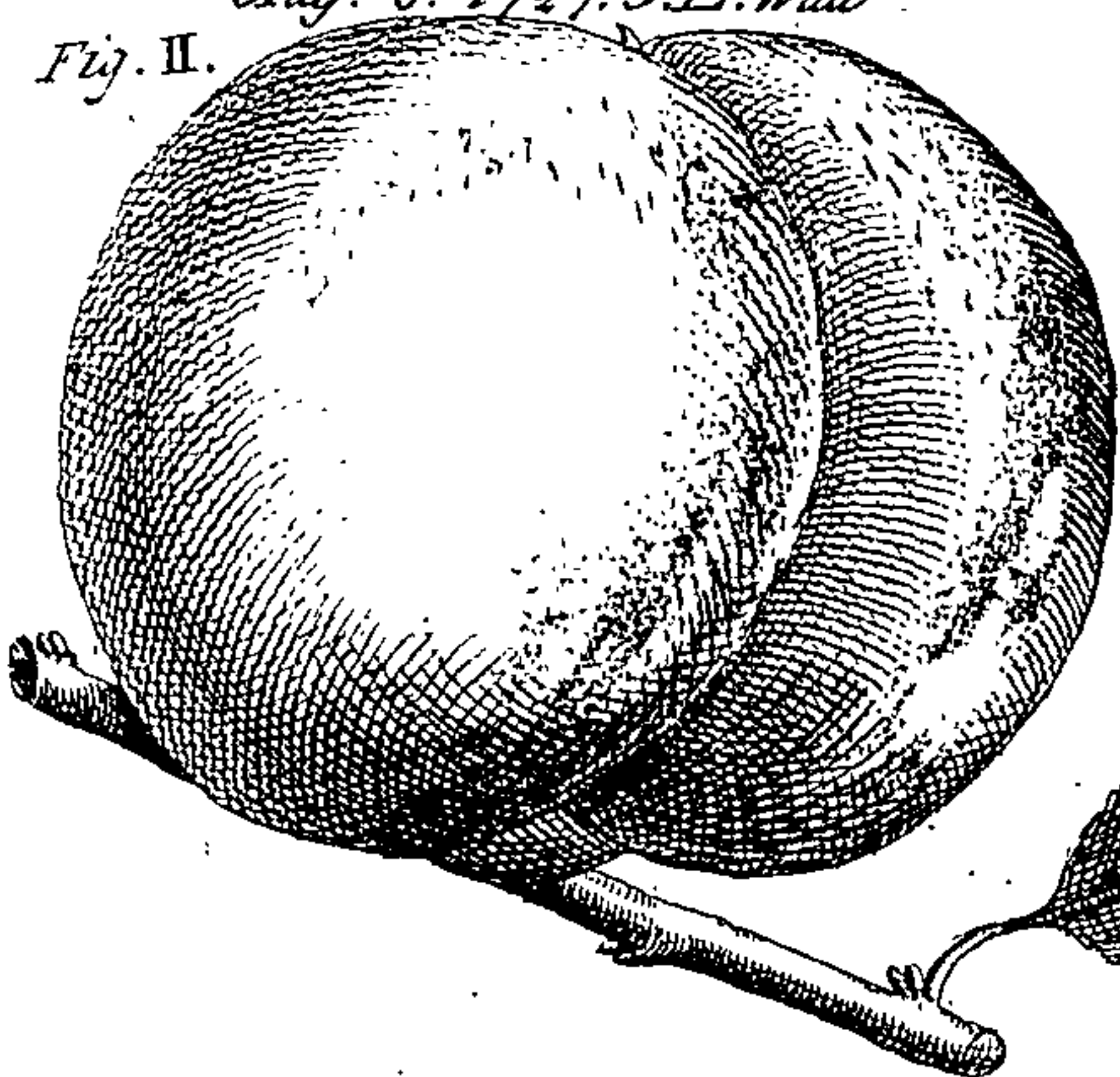
Fig. I.



Early Admirable

Aug^r 3rd 1727. S.E. Wall

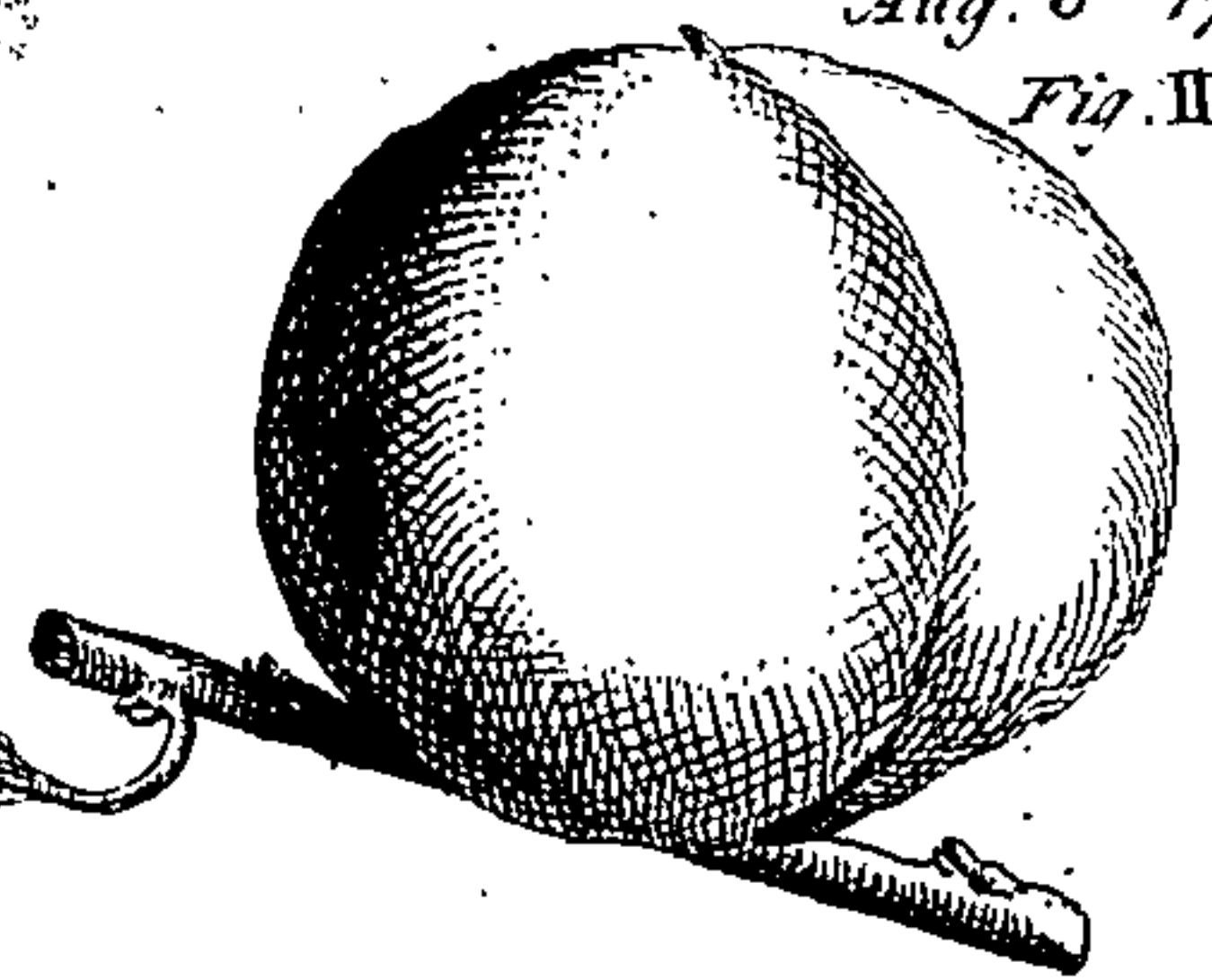
Fig. II.



Pais Violete

Aug^r 6th 1727.

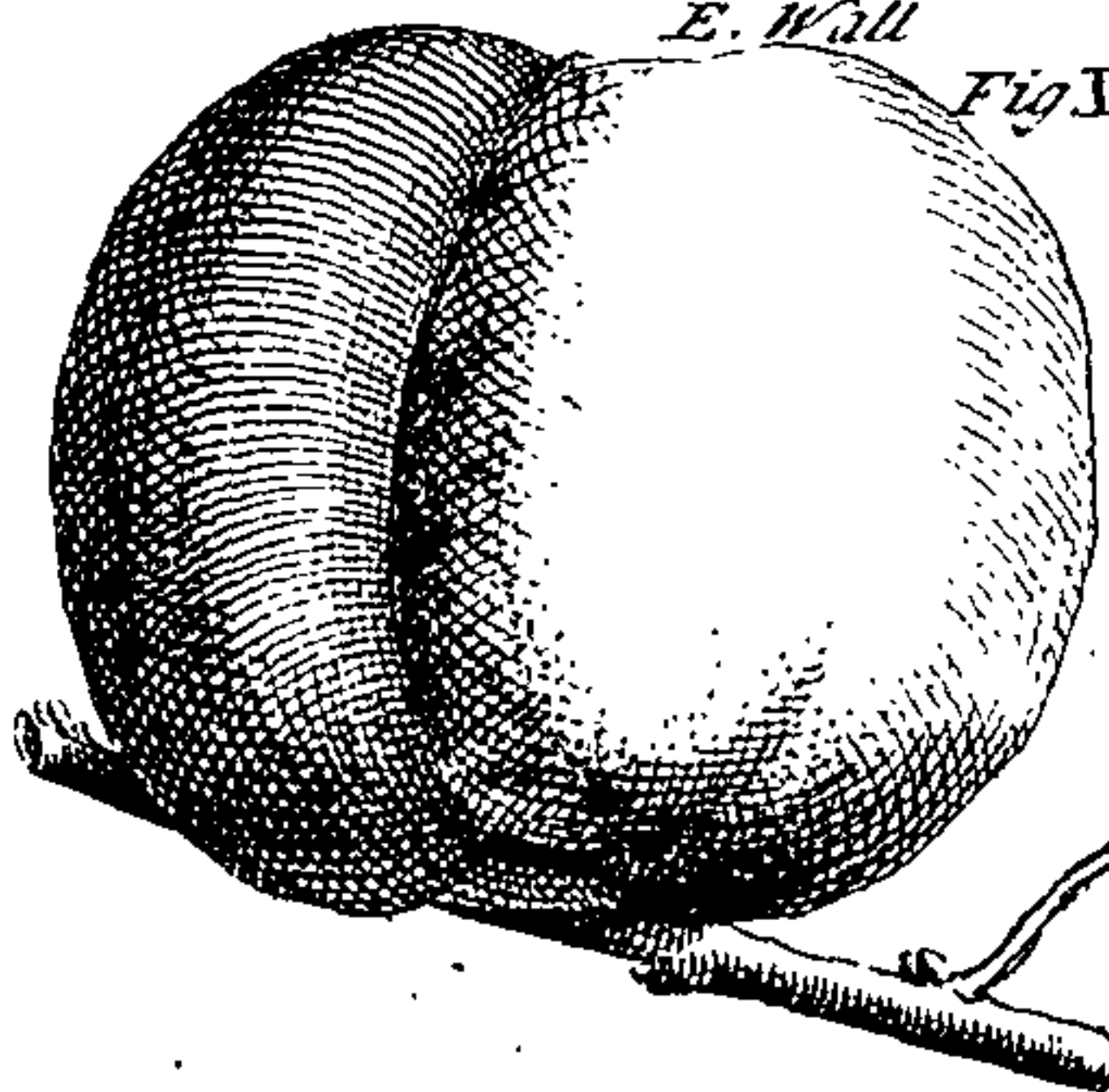
Fig. III



Nivet Aug^r 8th 1727.

E. Wall

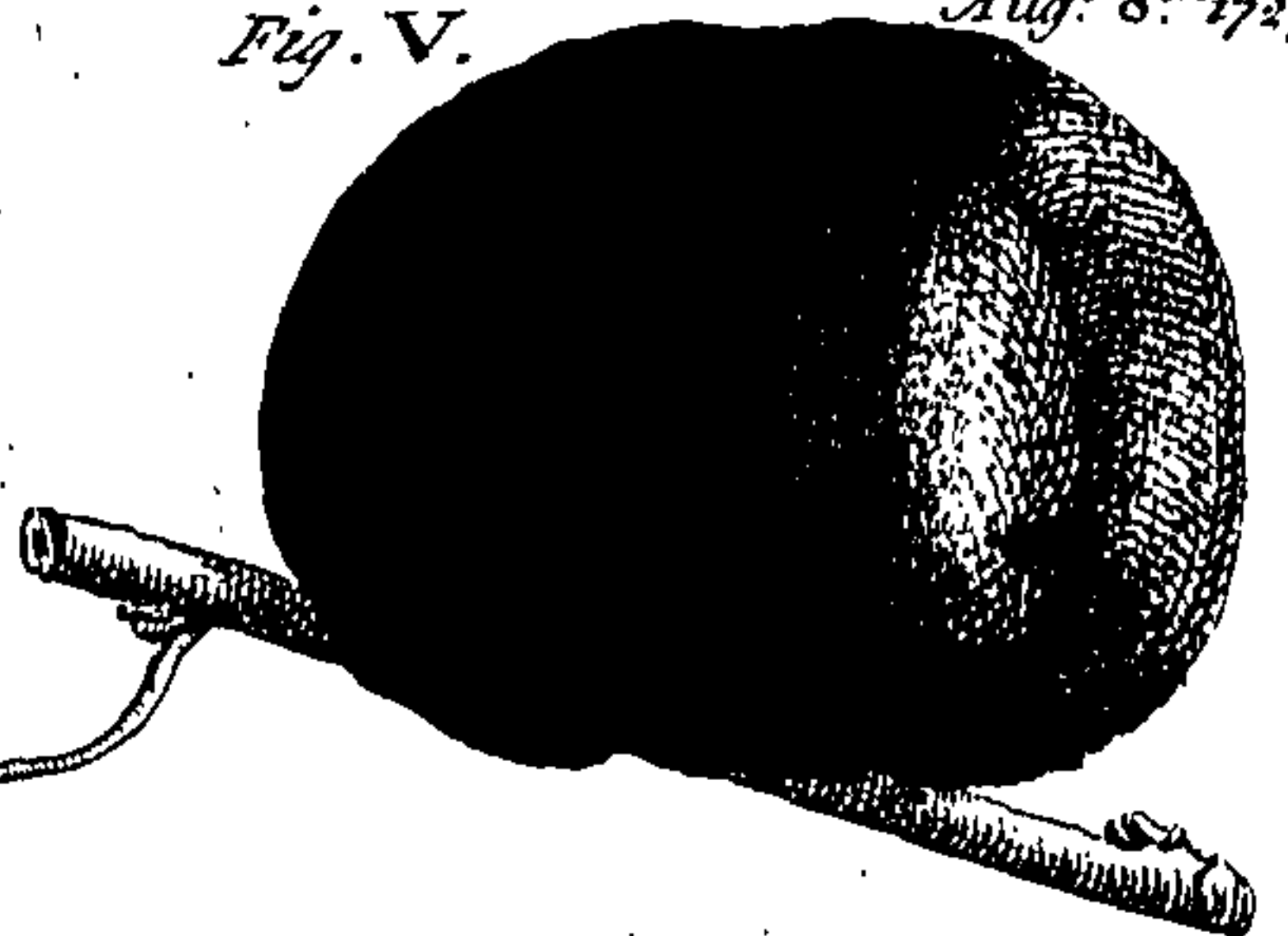
Fig. IIII



PurpleAlberge E. Wall

Fig. V.

Aug^r 8th 1727

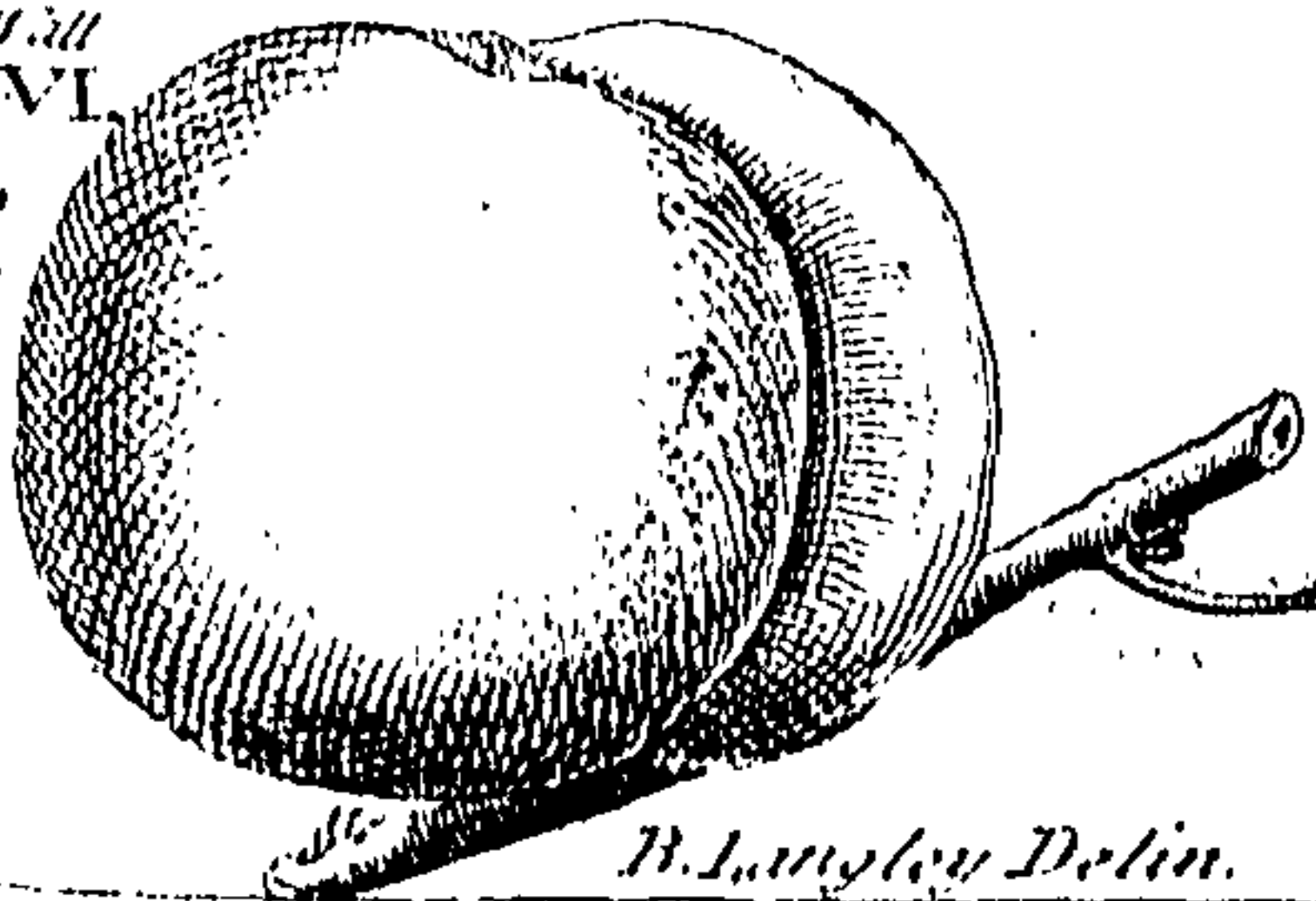


Violete Hative

Aug^r 8th 1727.

E. Wall

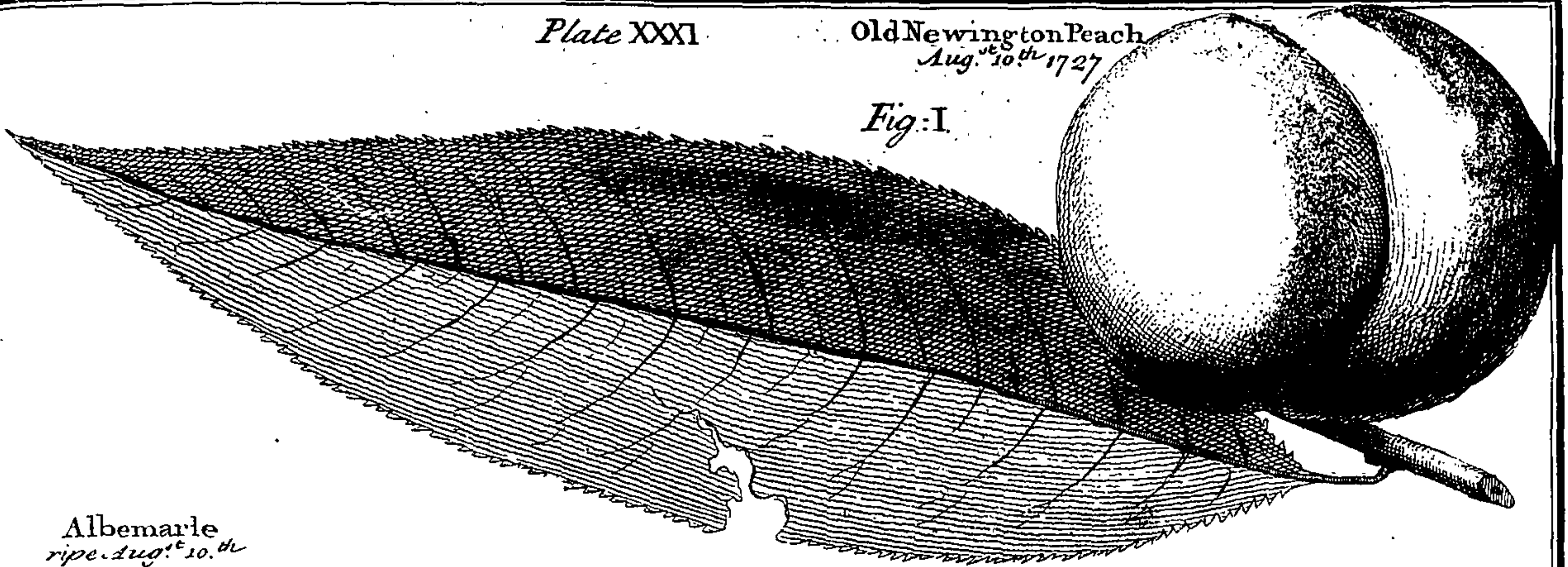
Fig. VI.



B. Langley Delin.

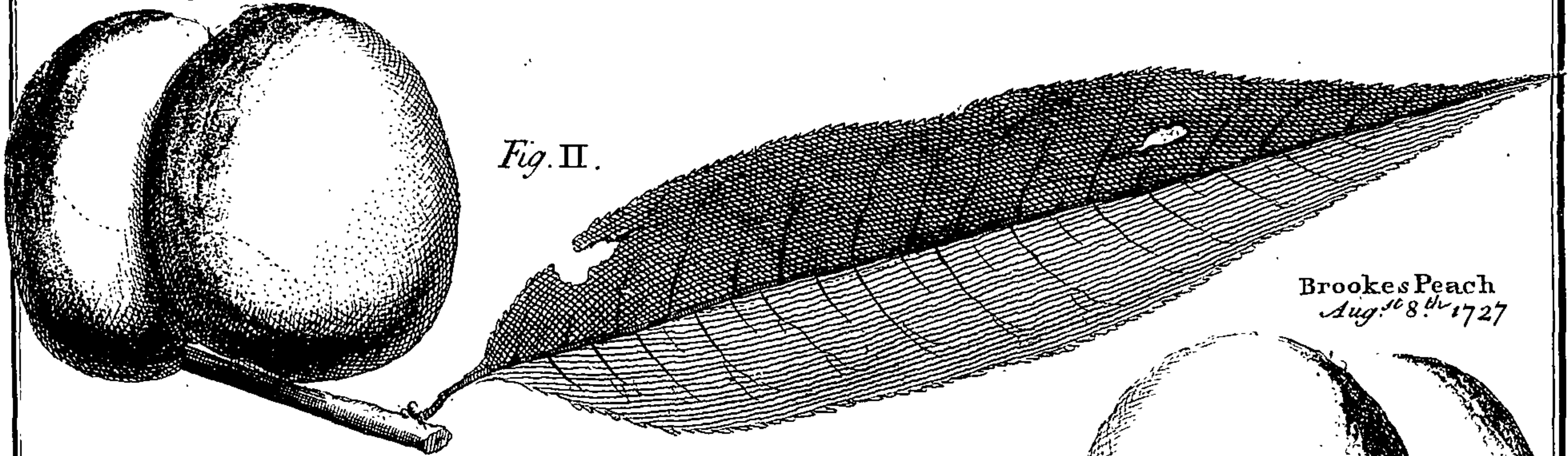
Toms Sculp.

Fig. I.



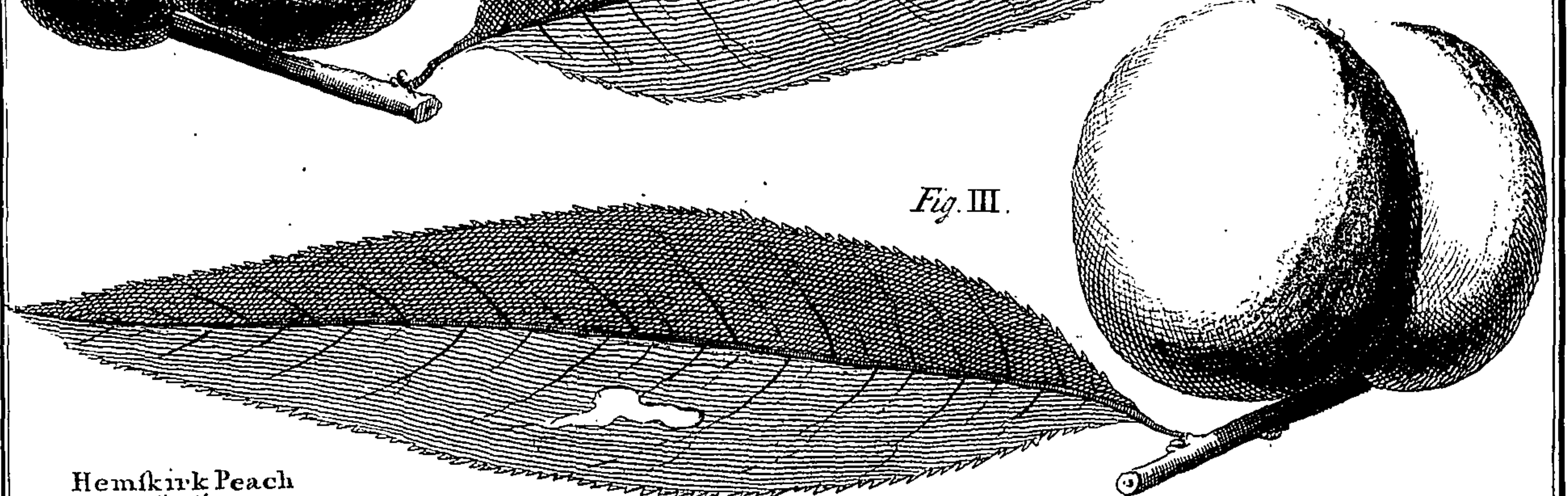
Albemarle
ripe Aug. 10th

Fig. II.



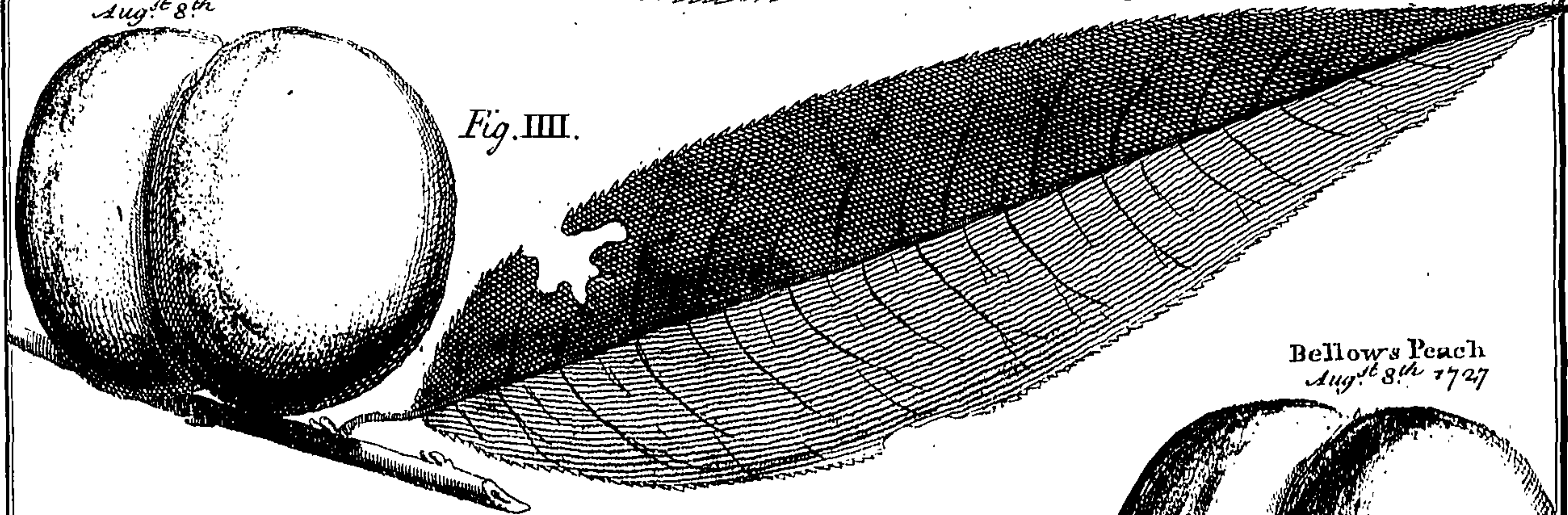
Brookes Peach
Aug. 8th 1727

Fig. III.



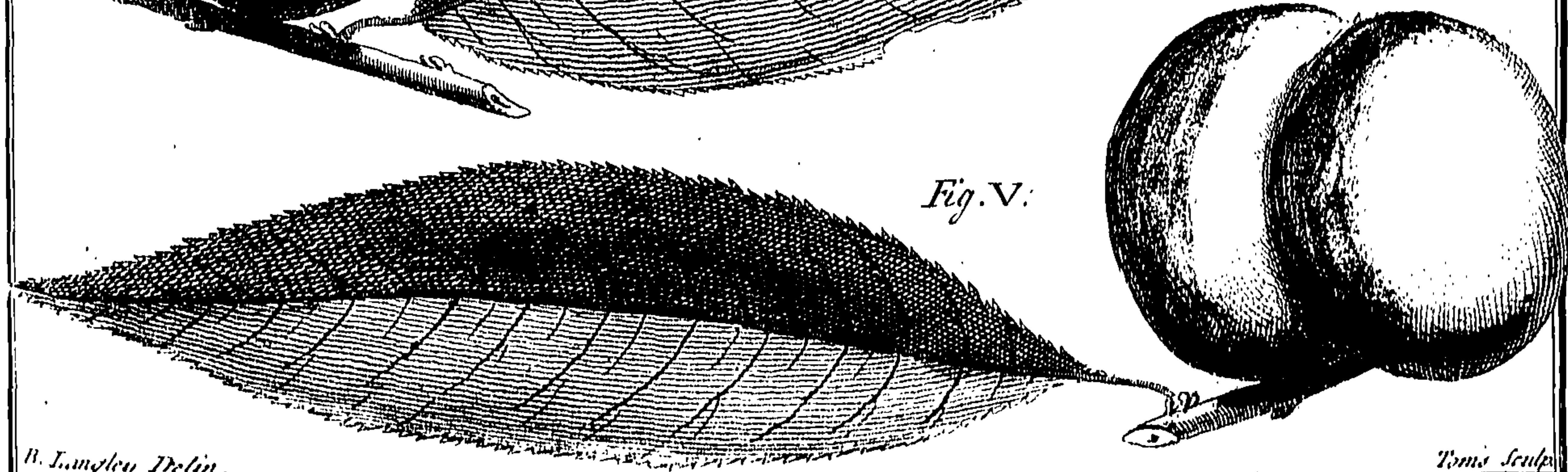
Hemskirk Peach
Aug. 8th

Fig. IIII.



Bellows Peach
Aug. 8th 1727

Fig. V.



Swalze Aug^t 1. 1727.
W. Wall.

Fig. I.

Pavy Royal Aug^t 15. 1727. E. Wall.

Fig. II.

Porpre Aug. 24. 1727.
S.E. Wall.

Fig. III.

Richets Aug^t 25. 1727. S.W. Wall.

Fig. III.

Late Admirable Aug^t 25. 1727.
S.E. Wall.

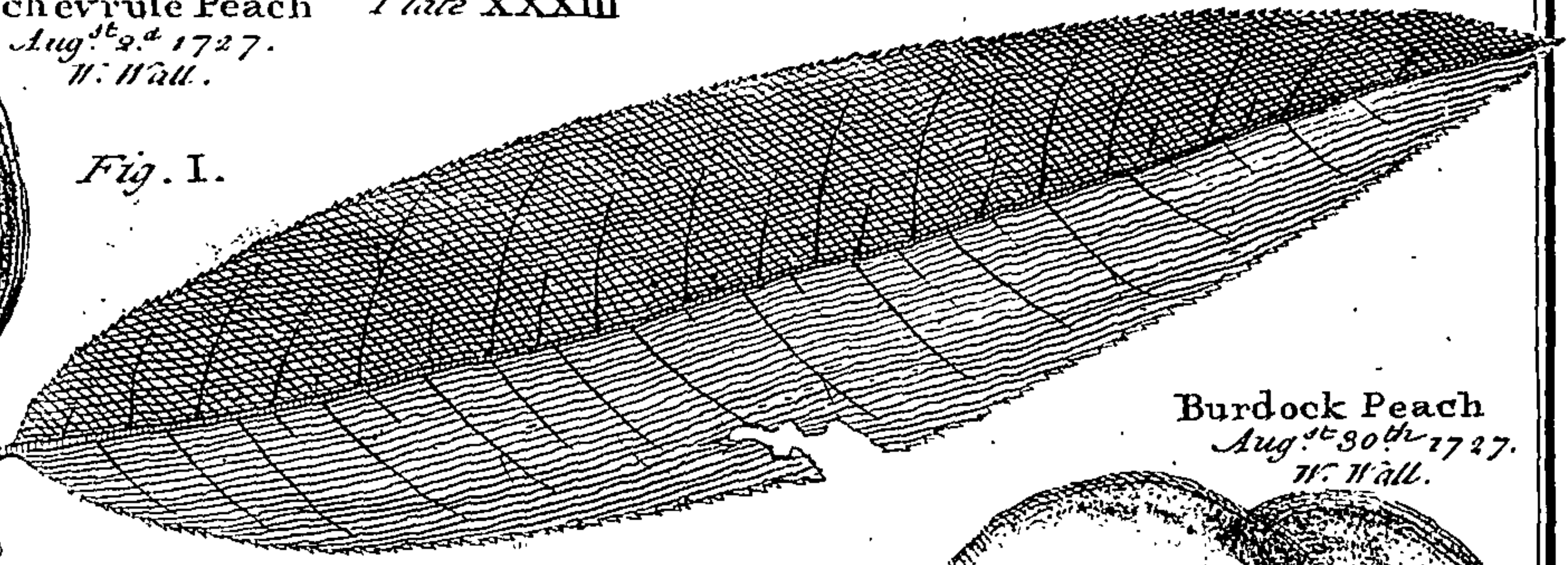
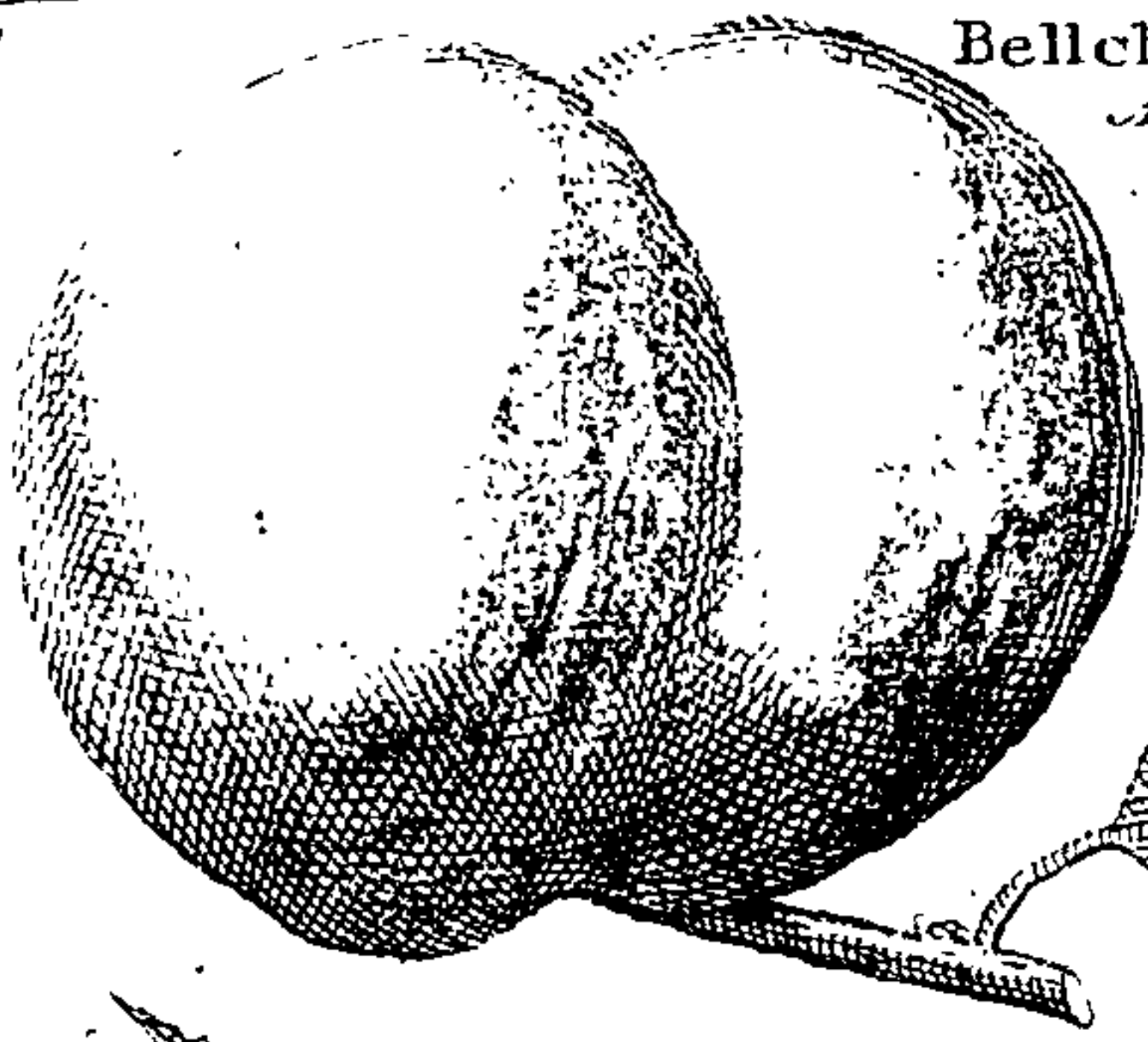
Fig. V.

Bellechevruse Peach Plate XXXIII

Aug²²^d 1727.

W. Wall.

Fig. I.

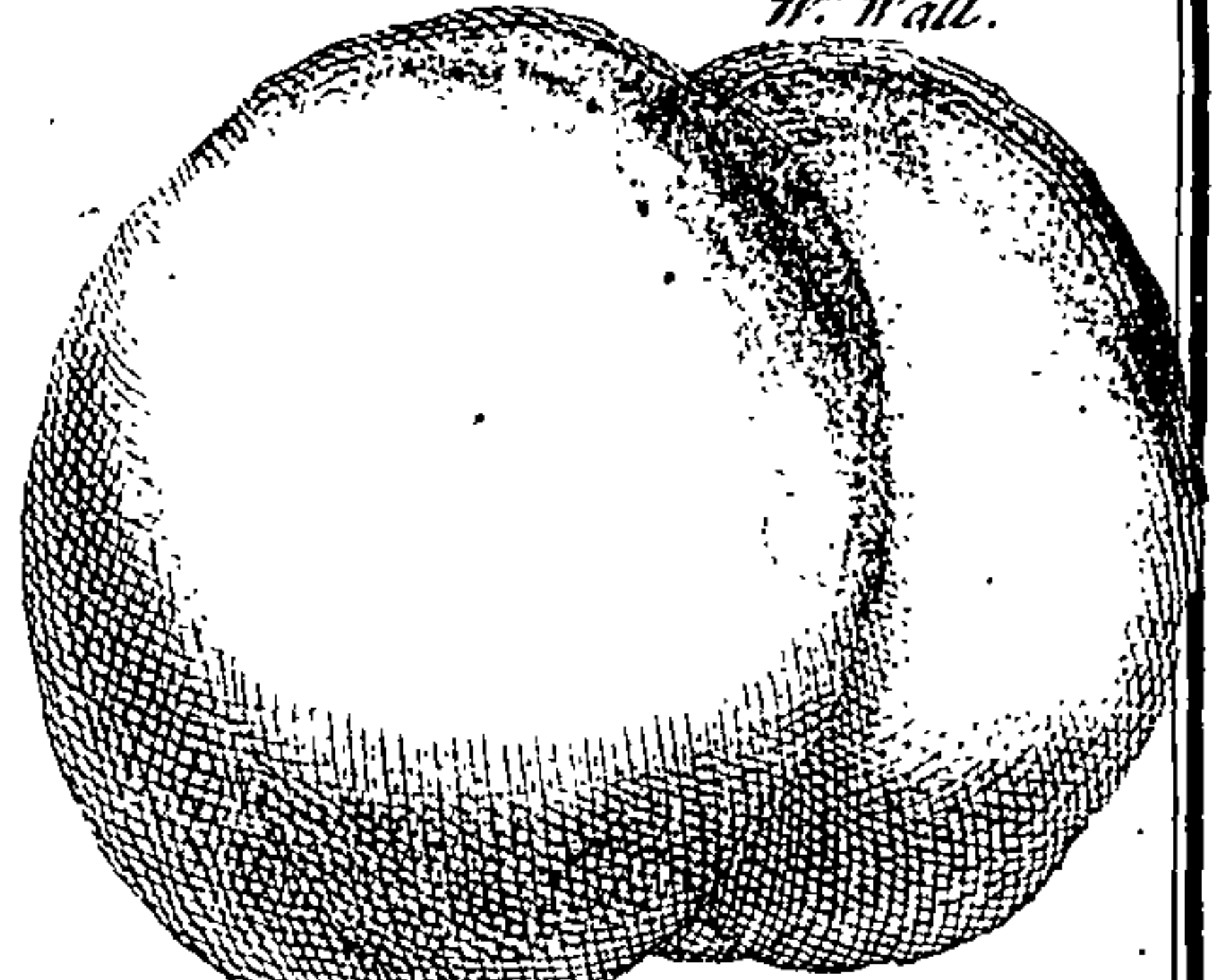


Burdock Peach

Aug³⁰th 1727.

W. Wall.

Fig. II.

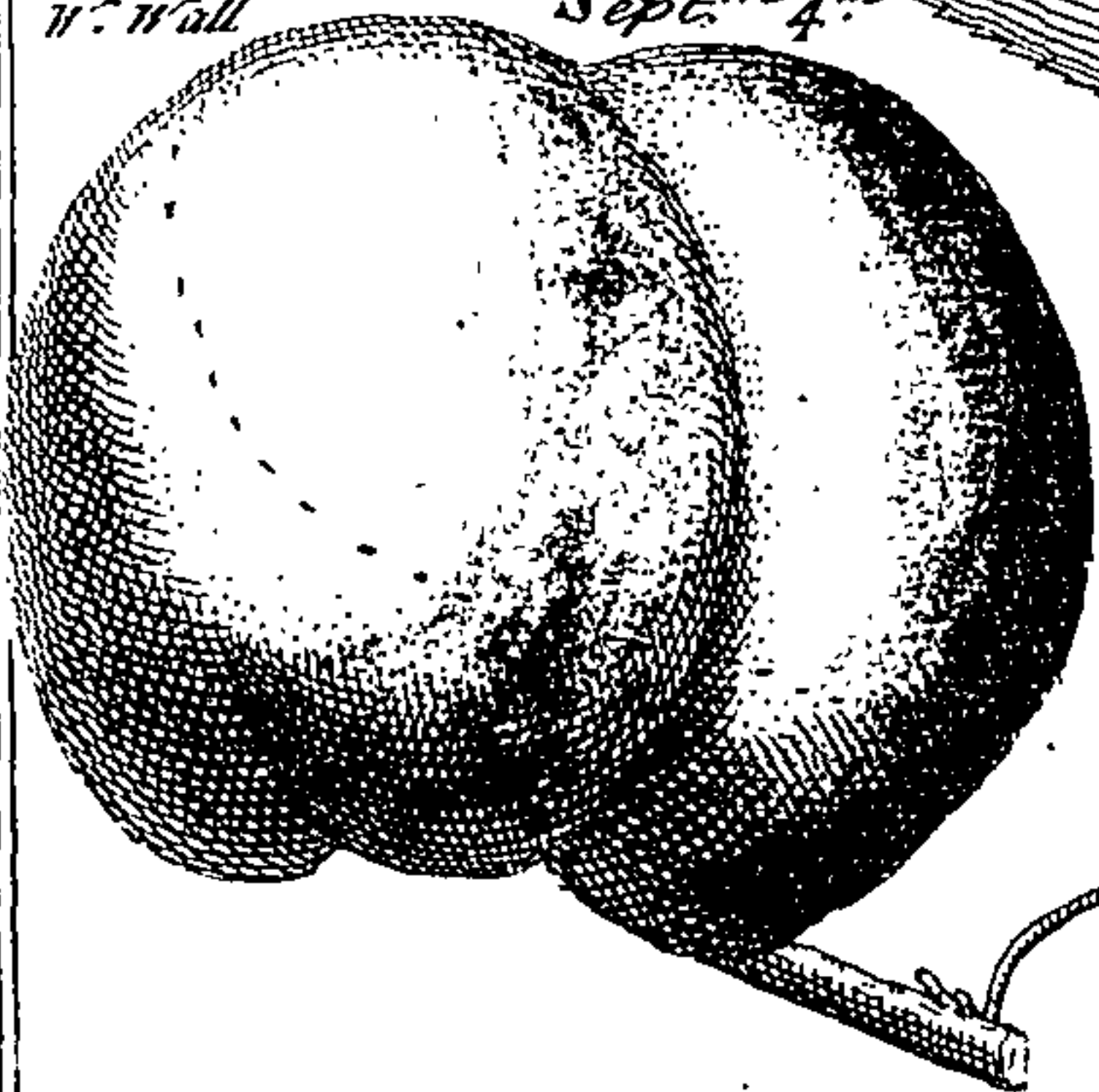


Rumbalion

W. Wall.

Sept⁷th

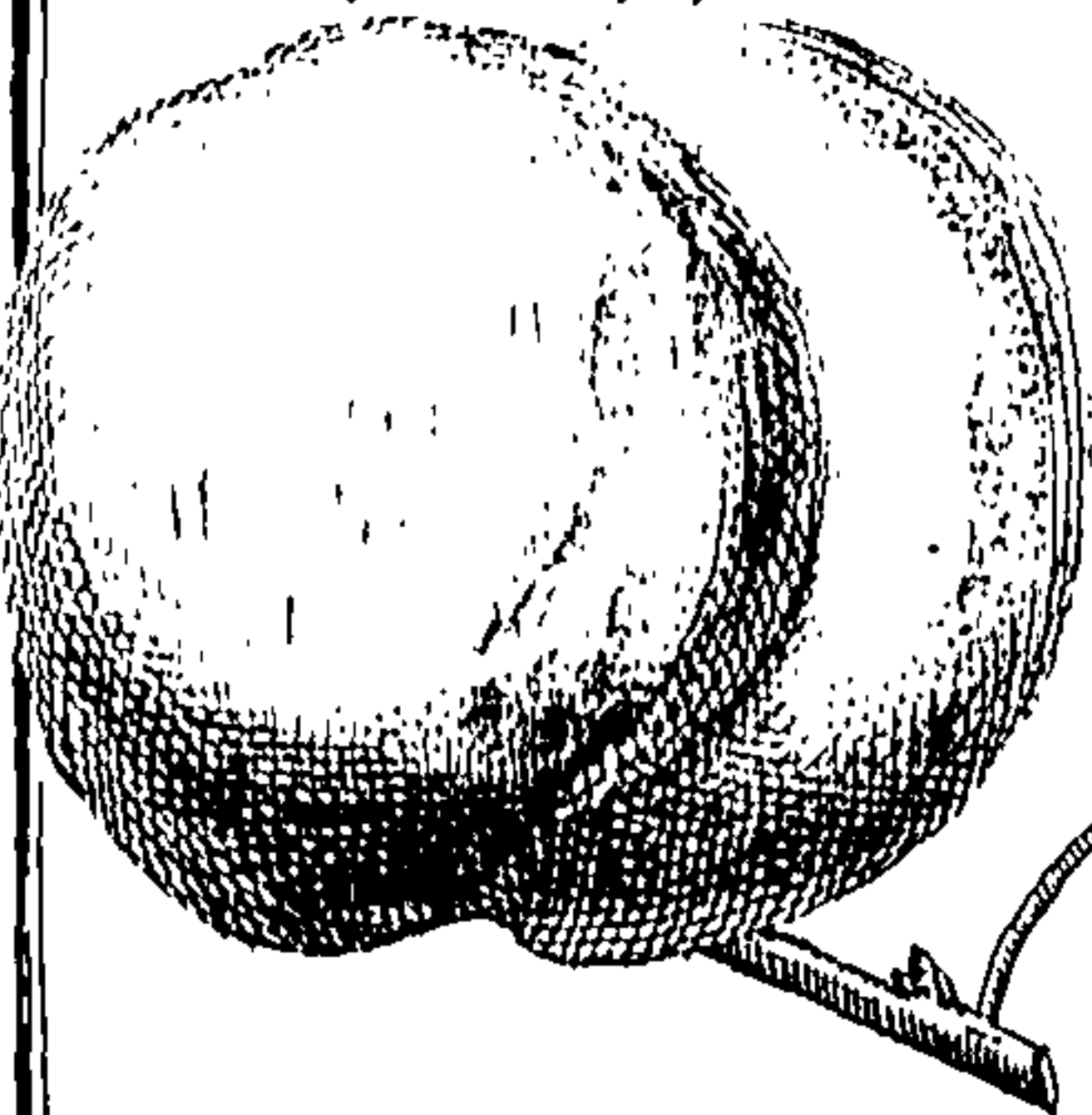
Fig. III.



Malacotune

Sept¹⁰th 1727. S. W. Wall.

Fig. III.

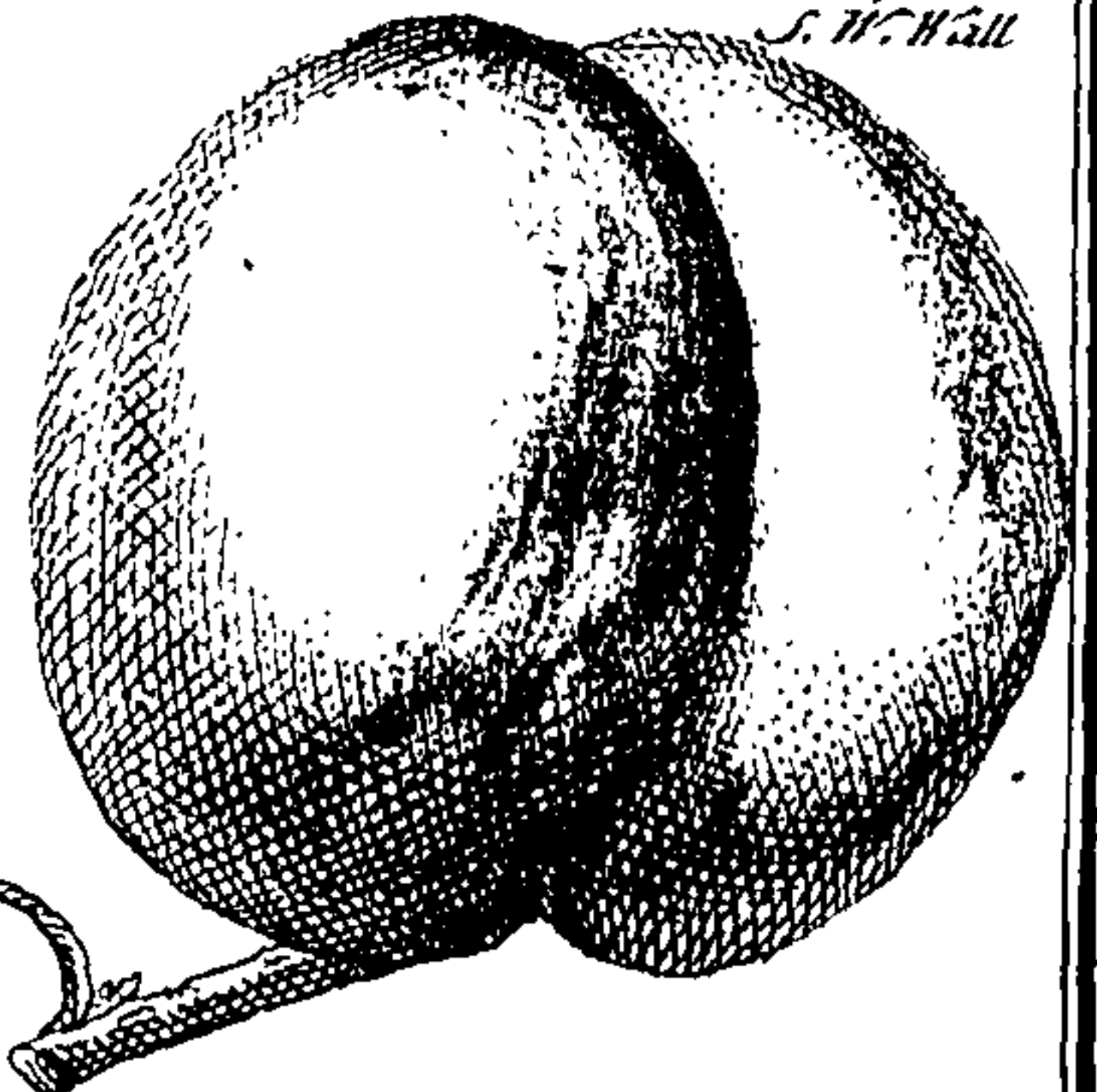


Italian Peach

Sept⁵th 1727.

S. W. Wall.

Fig. V.

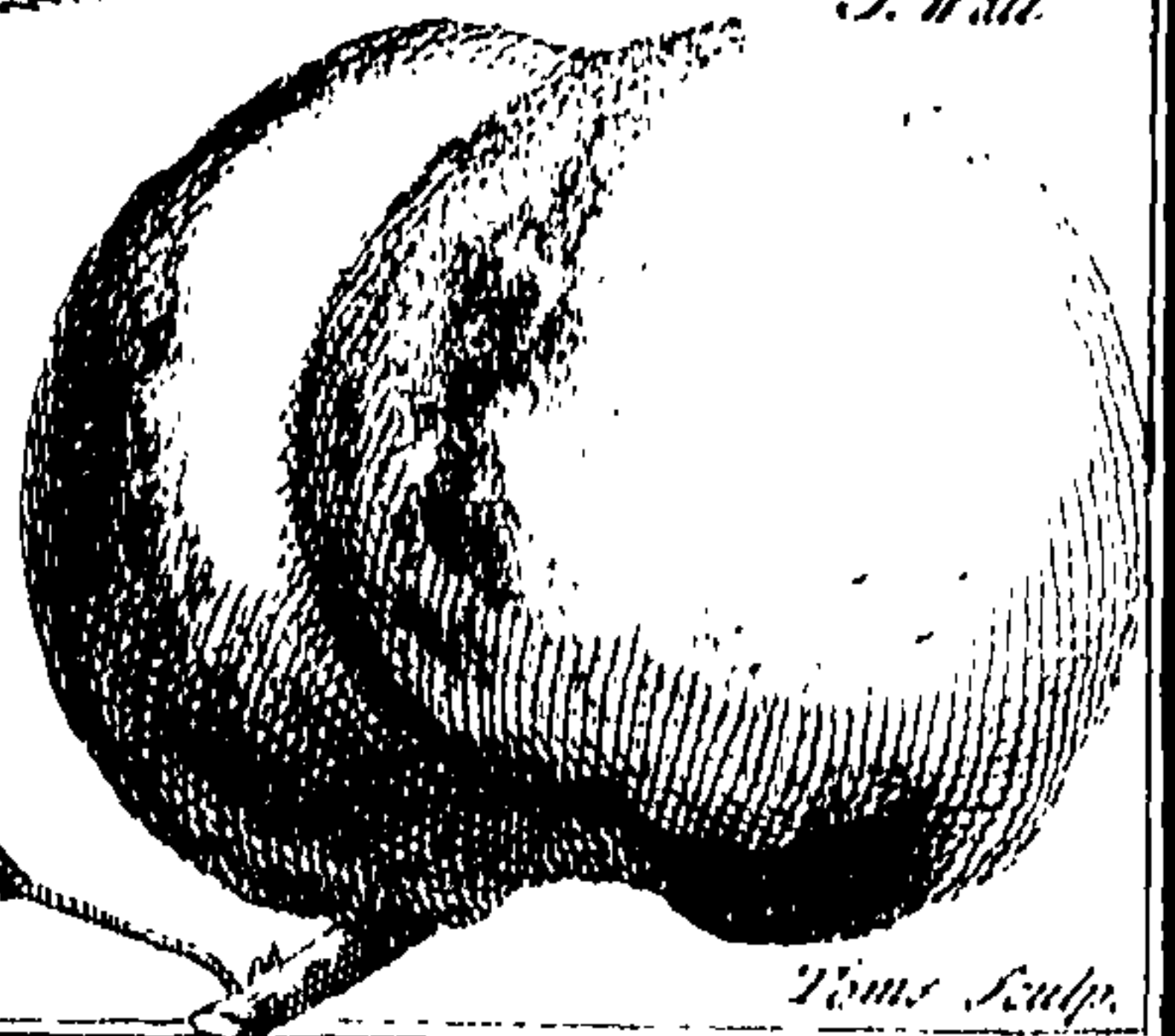


Catherine Peach

Sept¹⁵th 1727.

S. W. Wall.

Fig. VI.

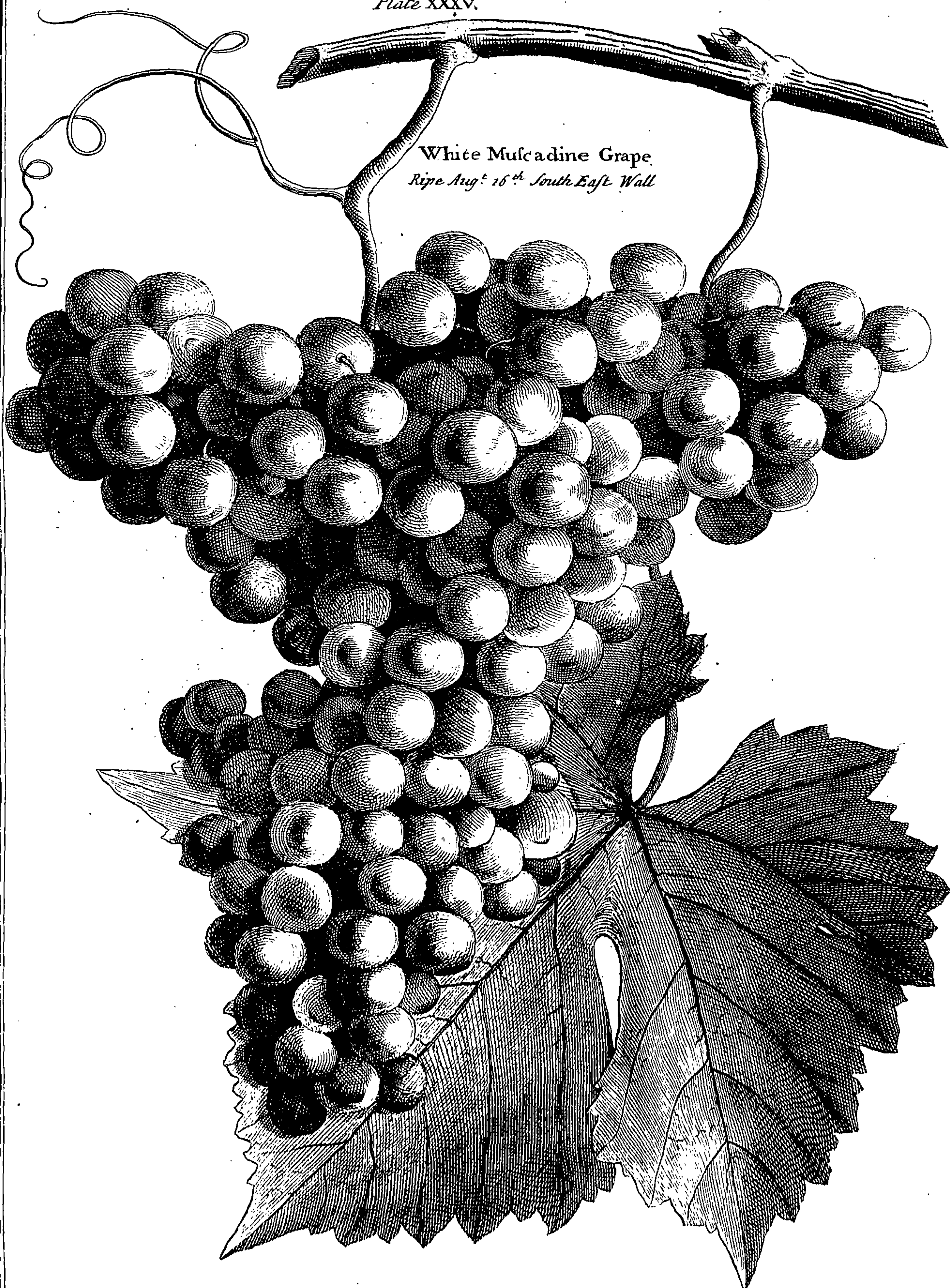


*The Erroneous Method of
Stopping the Shoots of vines
about the 20th of May.*

Fig. I.



White Muscadine Grape.
Ripe Aug^t 16th South East Wall



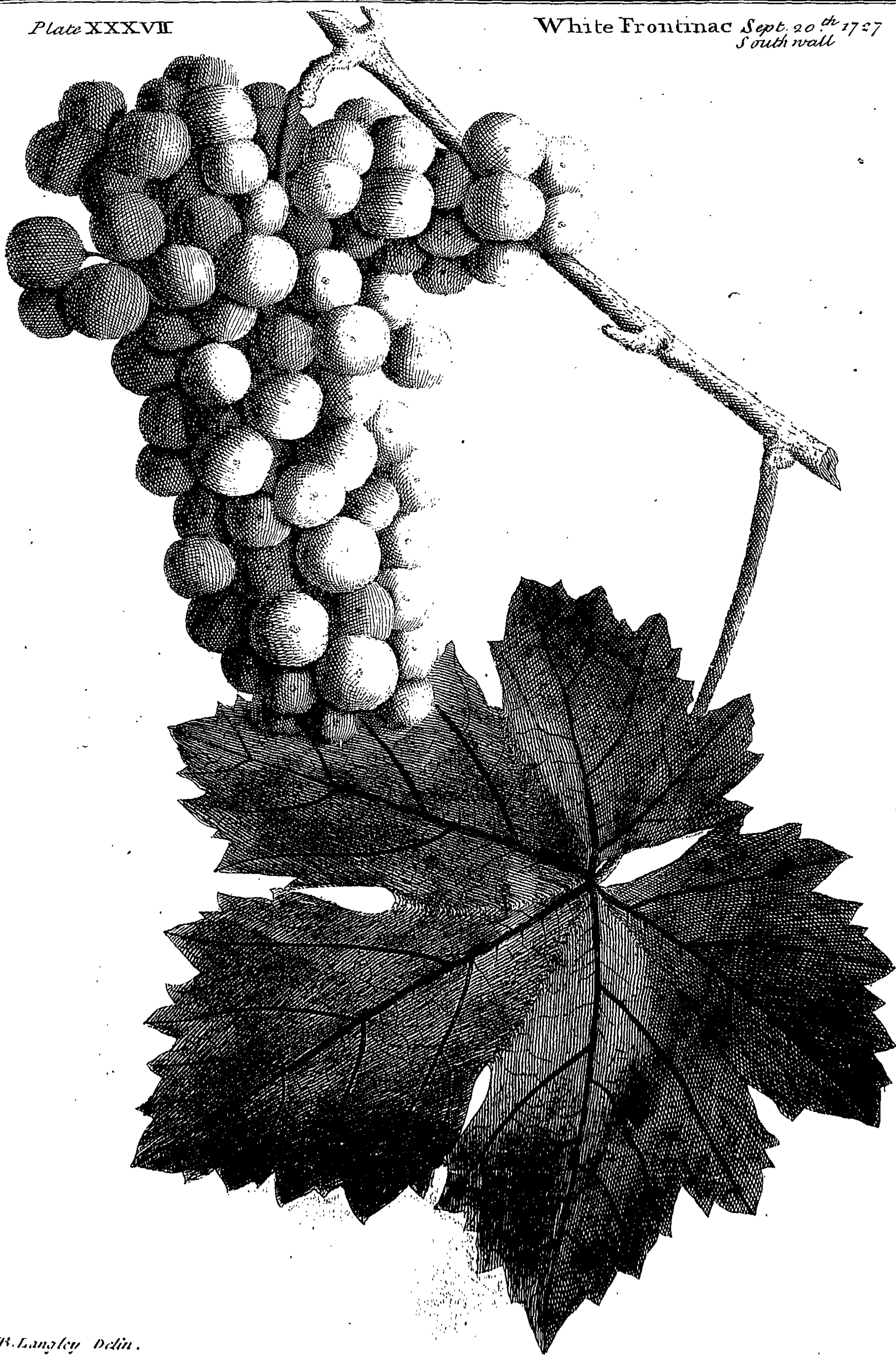
Black Muscadine Grape

Sep. 20. th 1797
South wall —



Plate XXXVII

White Frontinac Sept. 20th 1787
South wall



B. Langley Delin.

Black Frontinac Sept. 20.th 1727.
South wall

Plate XXXVIII.

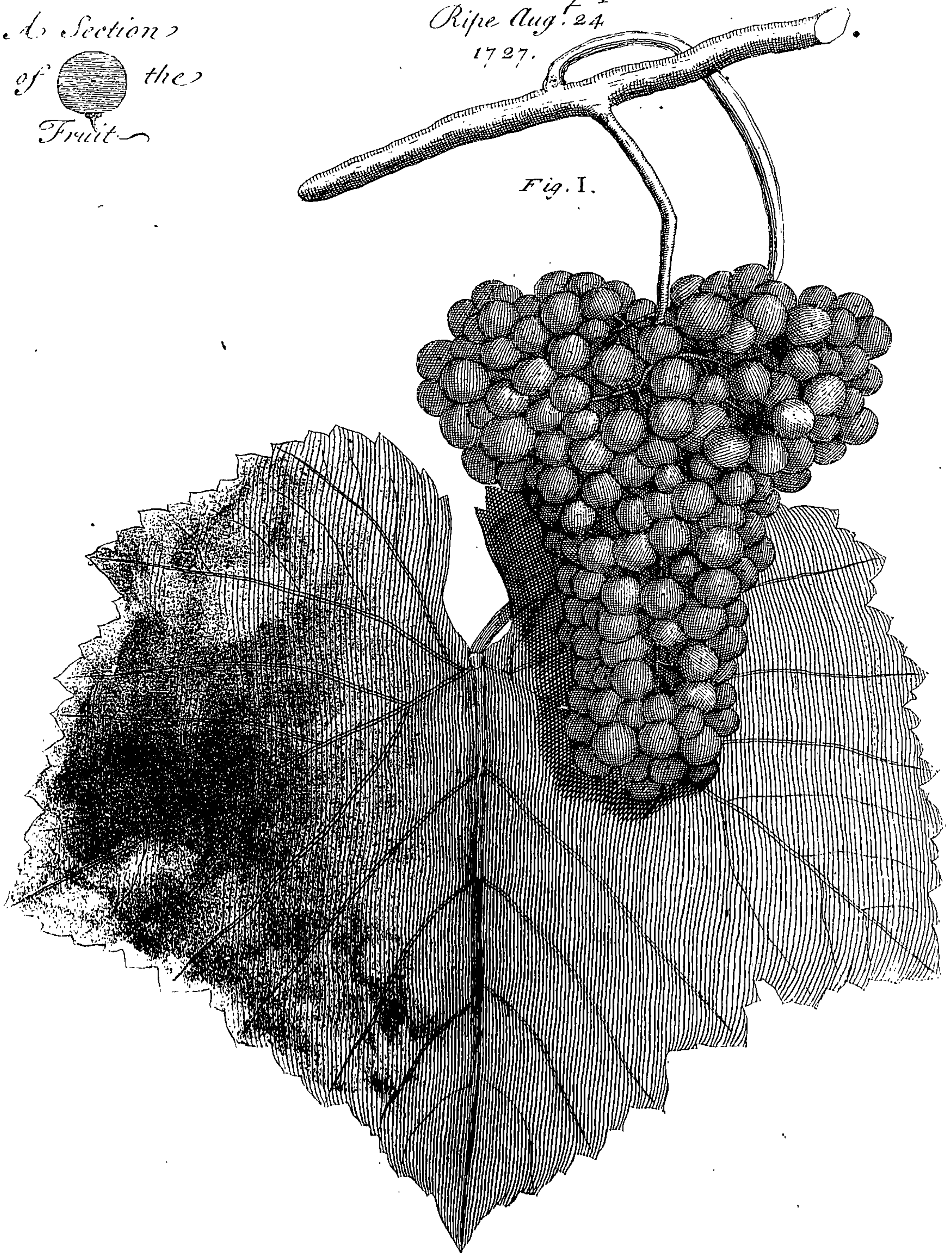


B. Langley Delin.

A Section
of the
Fruit

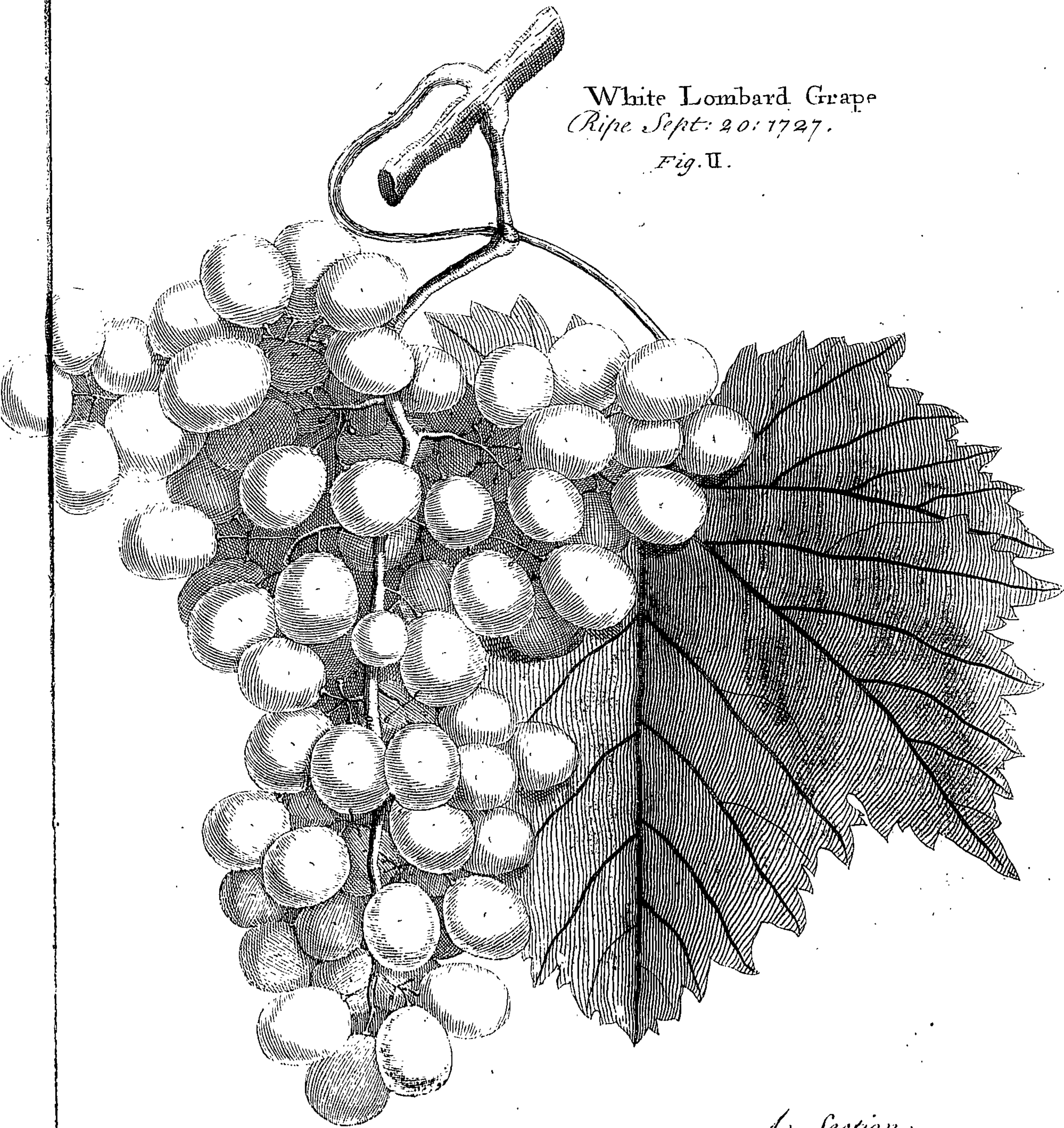
Brick Grape
Ripe Aug. 24
1727.

Fig. I.



White Lombard Grape
(Ripe Sept: 20: 1727.)

Fig. II.



A Section
of the Fruit

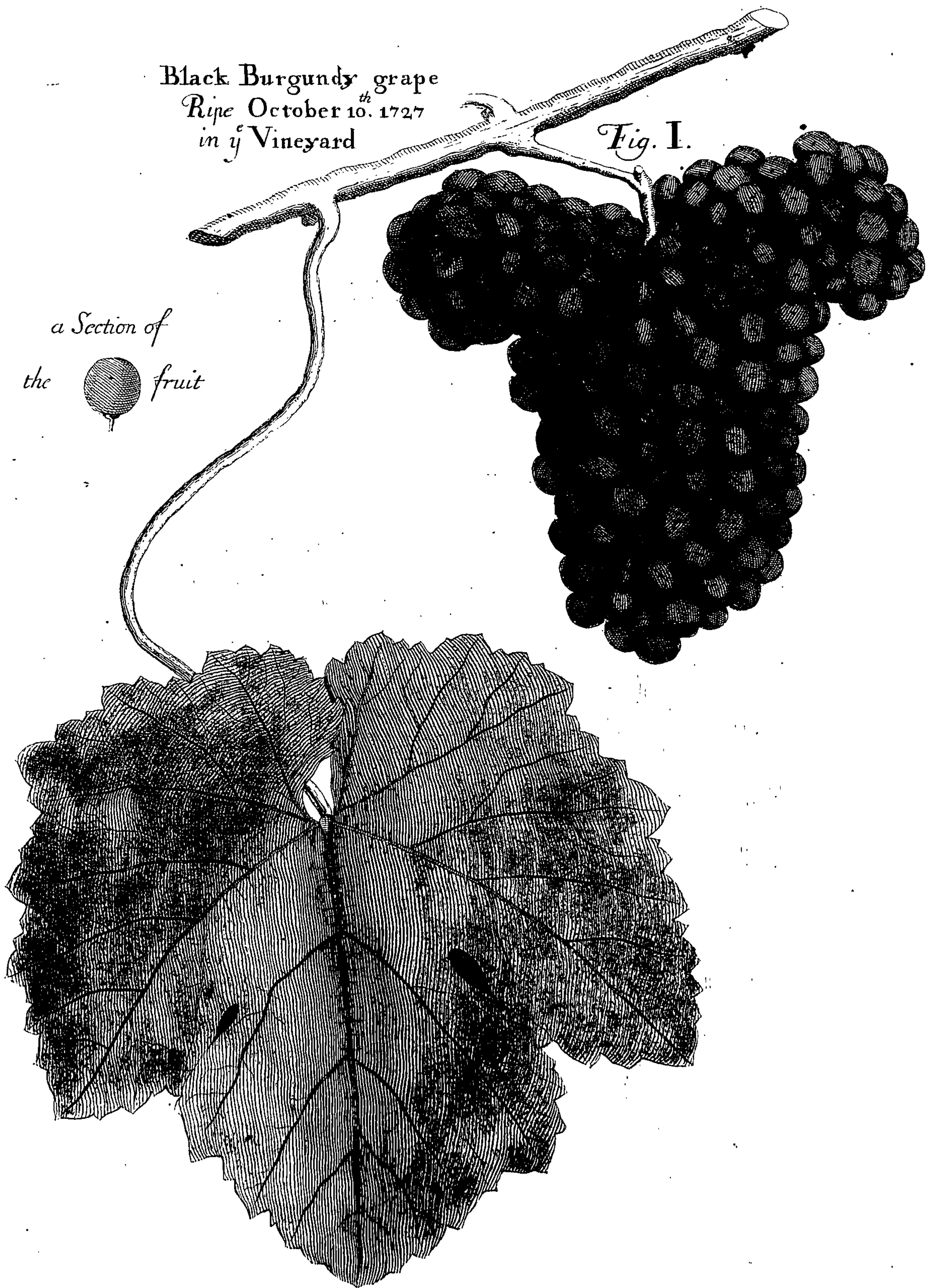


J. L. Gucht, Sculp

Black Burgundy grape
Ripe October 10.th 1727
in y^e Vineyard

Fig. I.

a Section of
the fruit

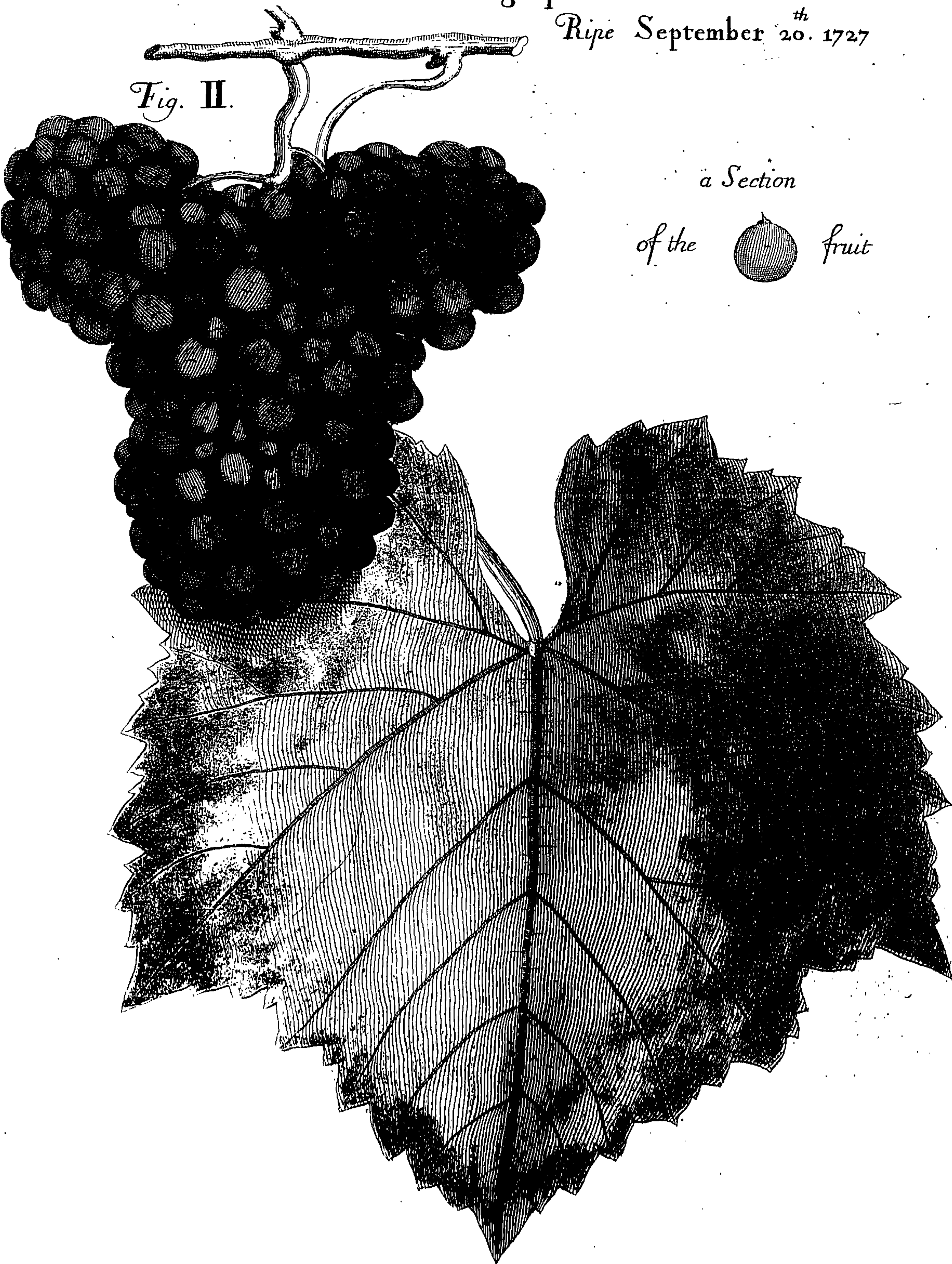


B. Langley Delin.

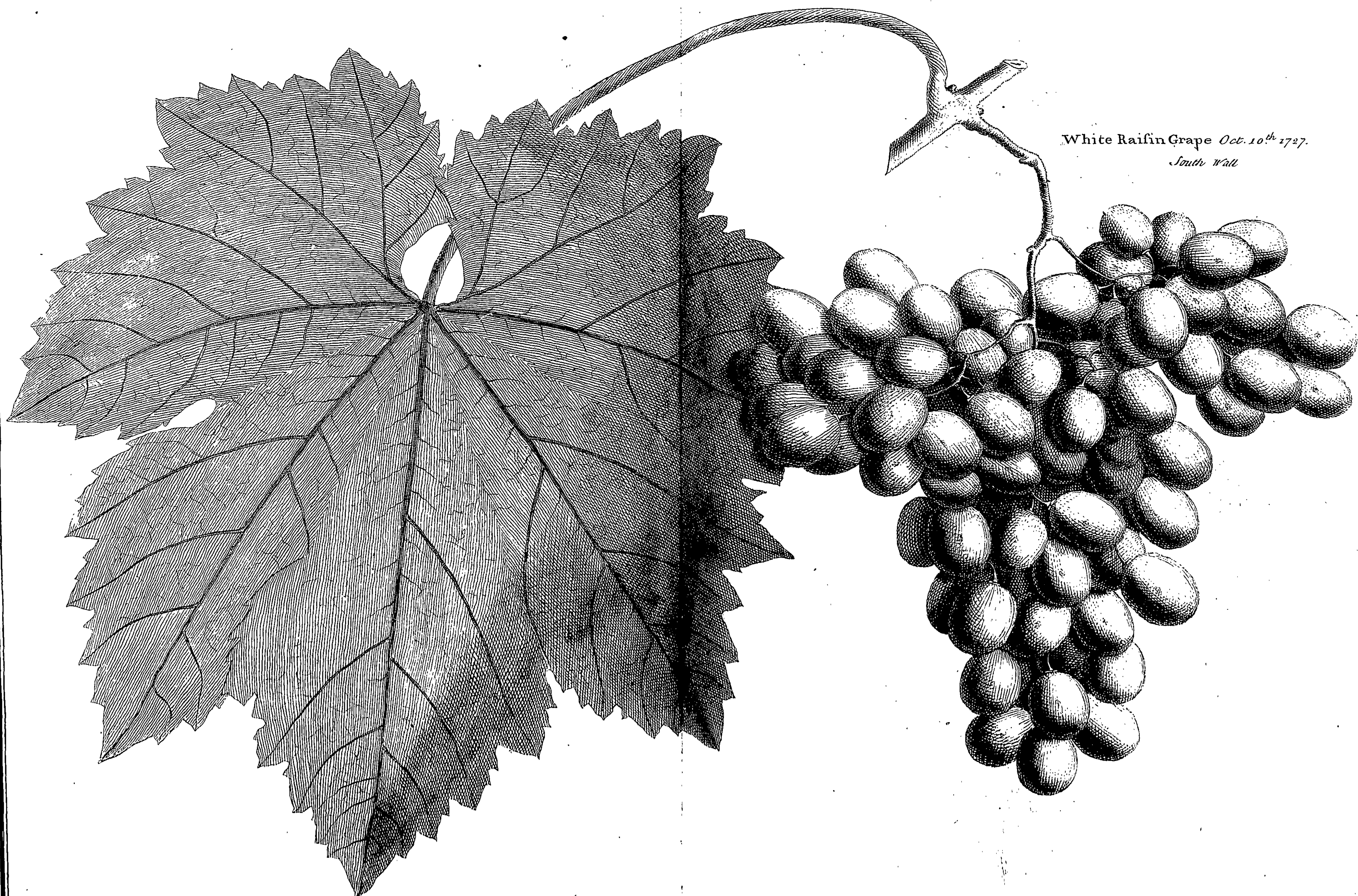
Black Cluster grape

Ripe September 20th. 1727

Fig. II.



V^r Gucht Sc.

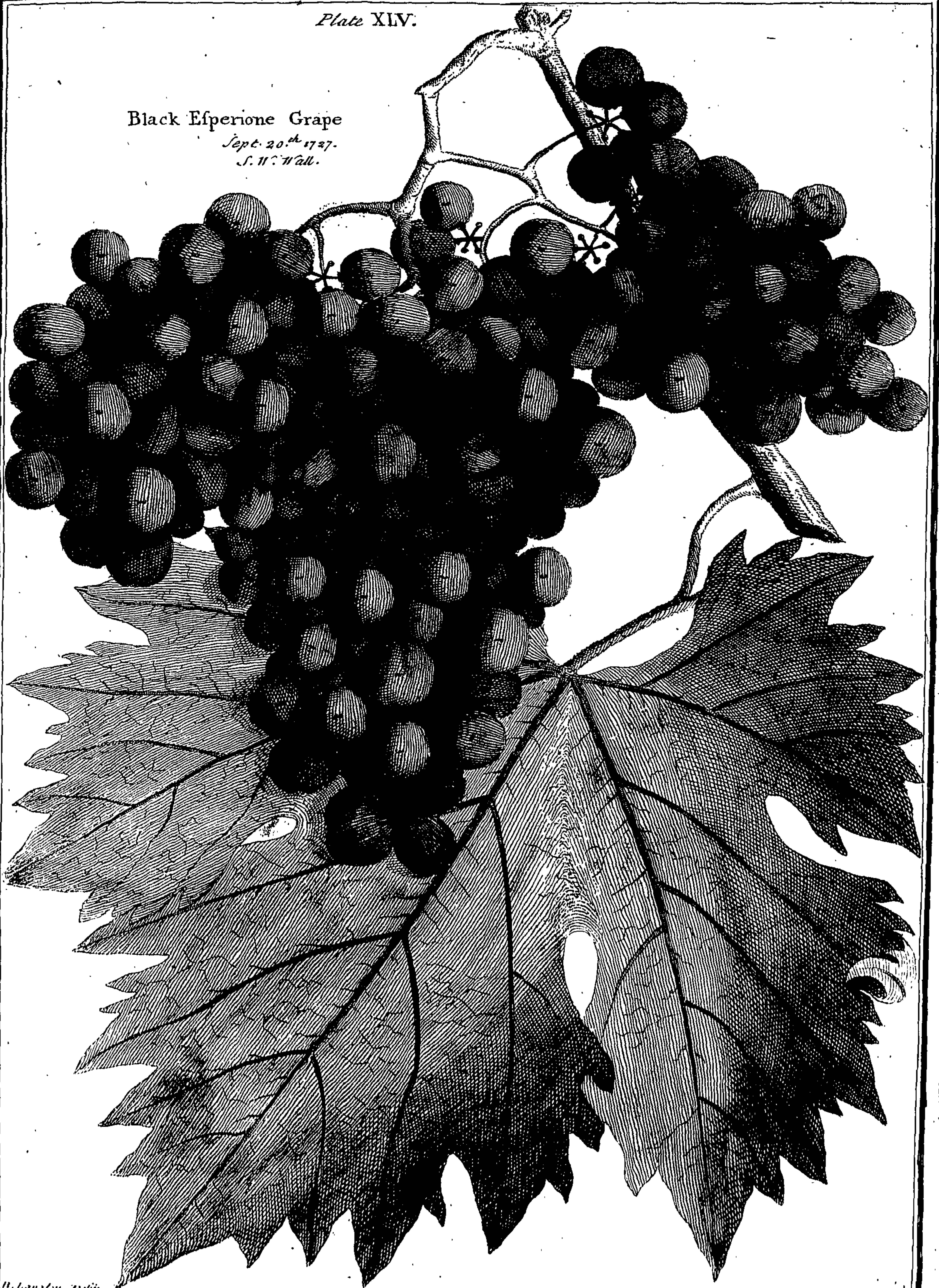


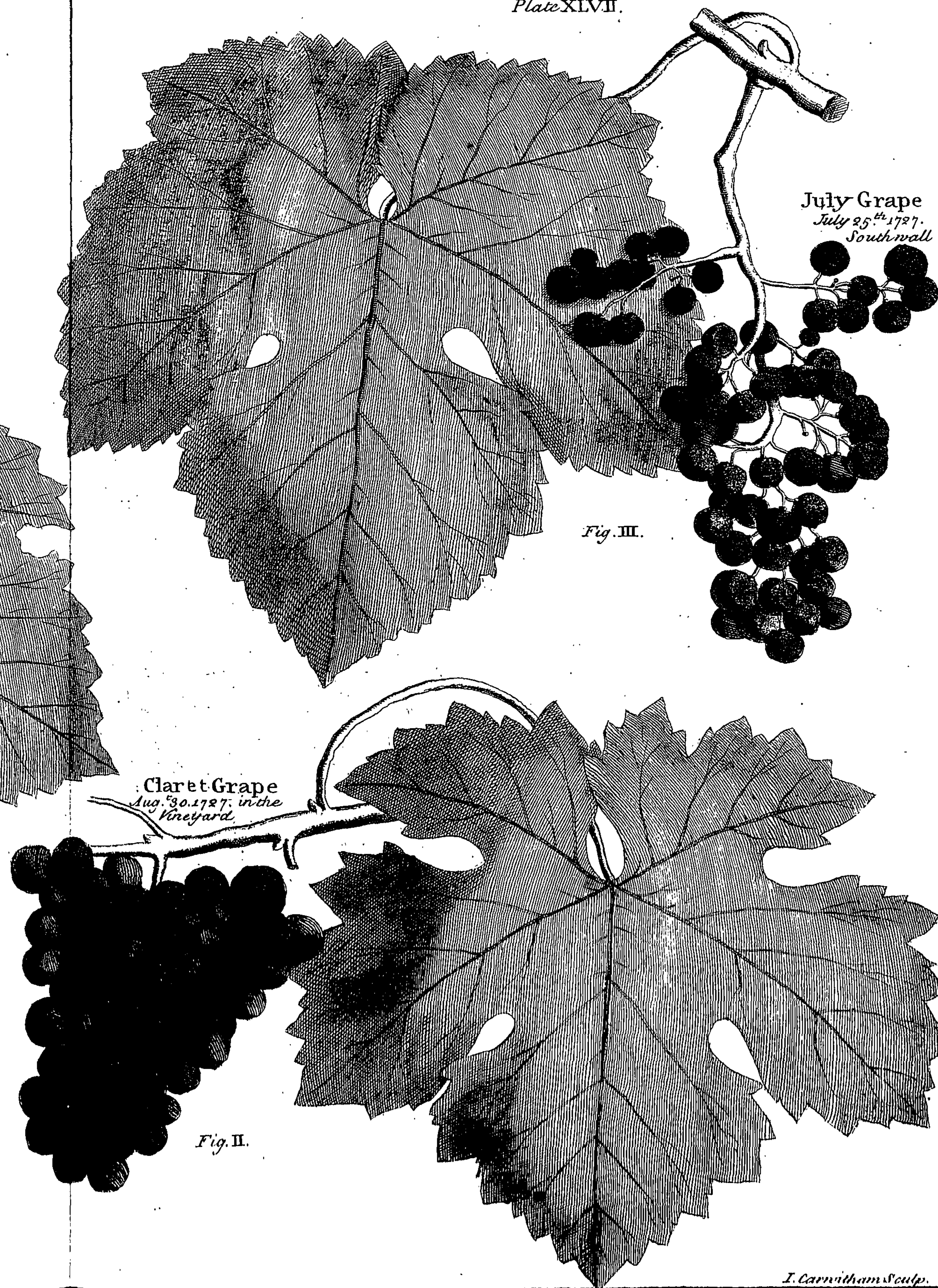
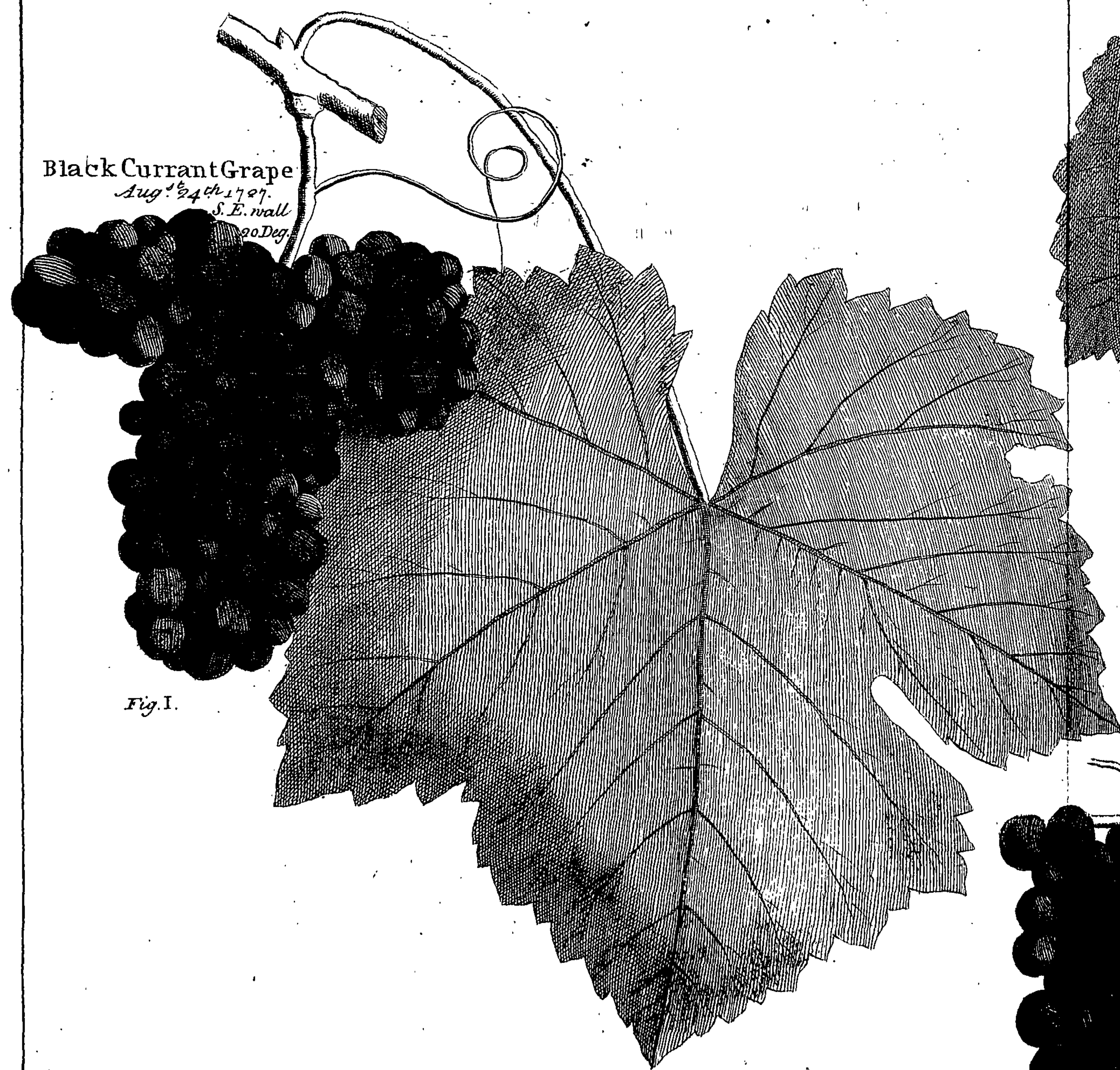
White Raisin Grape Oct. 10th 1727.
South Wall

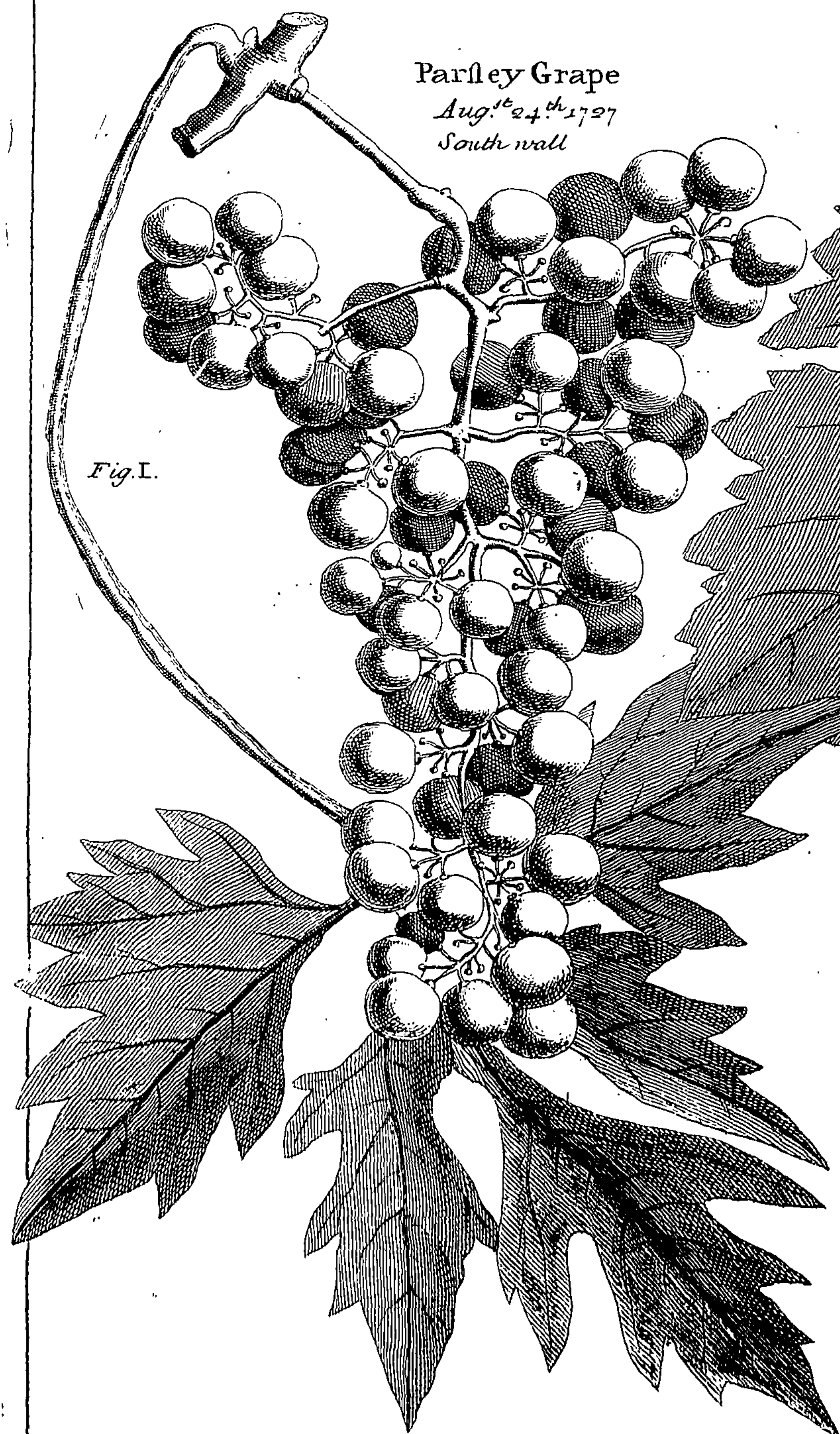
Black Esperione Grape

Sept. 20th 1787.

S. W. Wall.



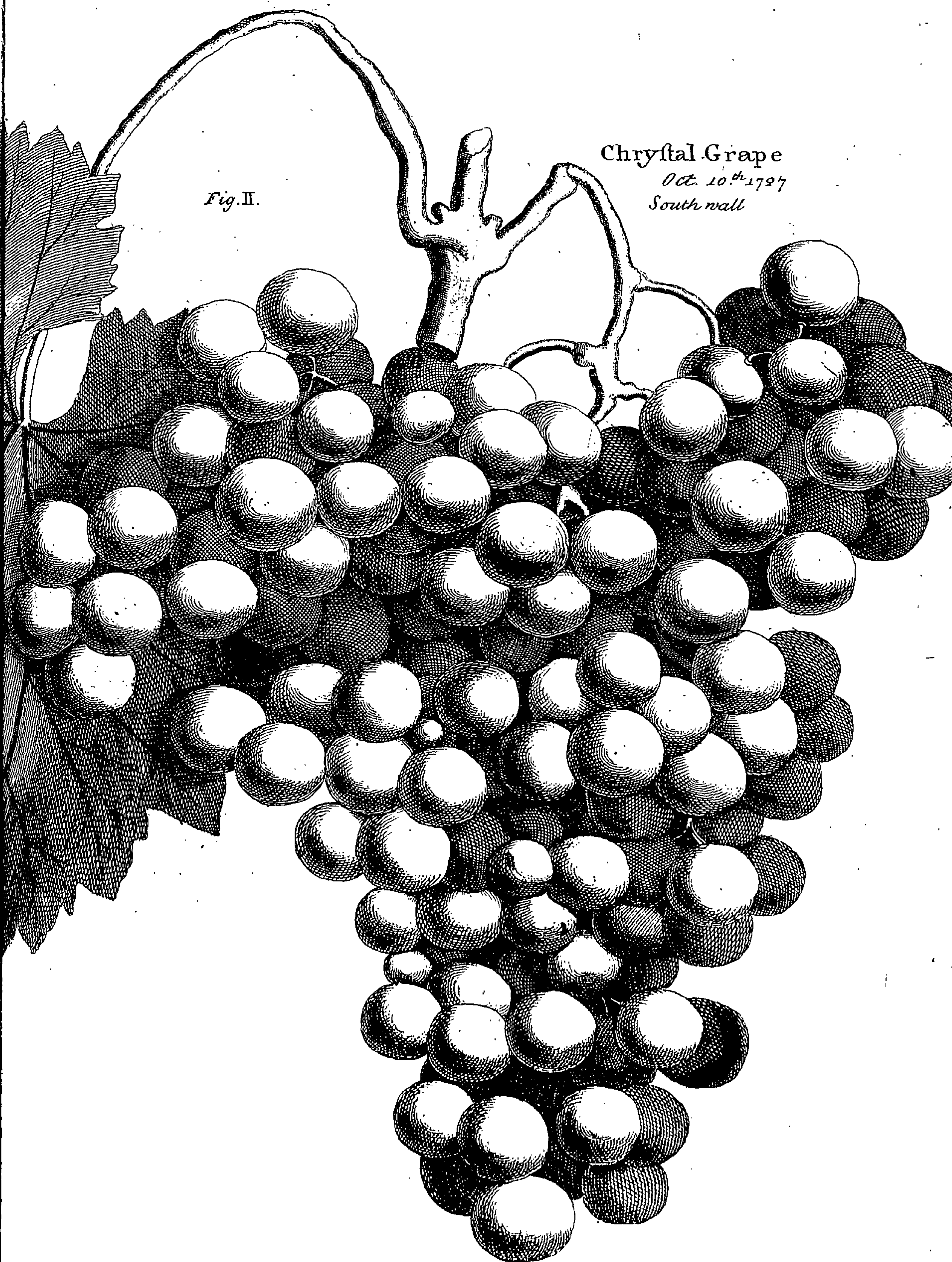




Parley Grape
Aug. 24th 1797
South wall

Fig. I.

B. Langley Delin.



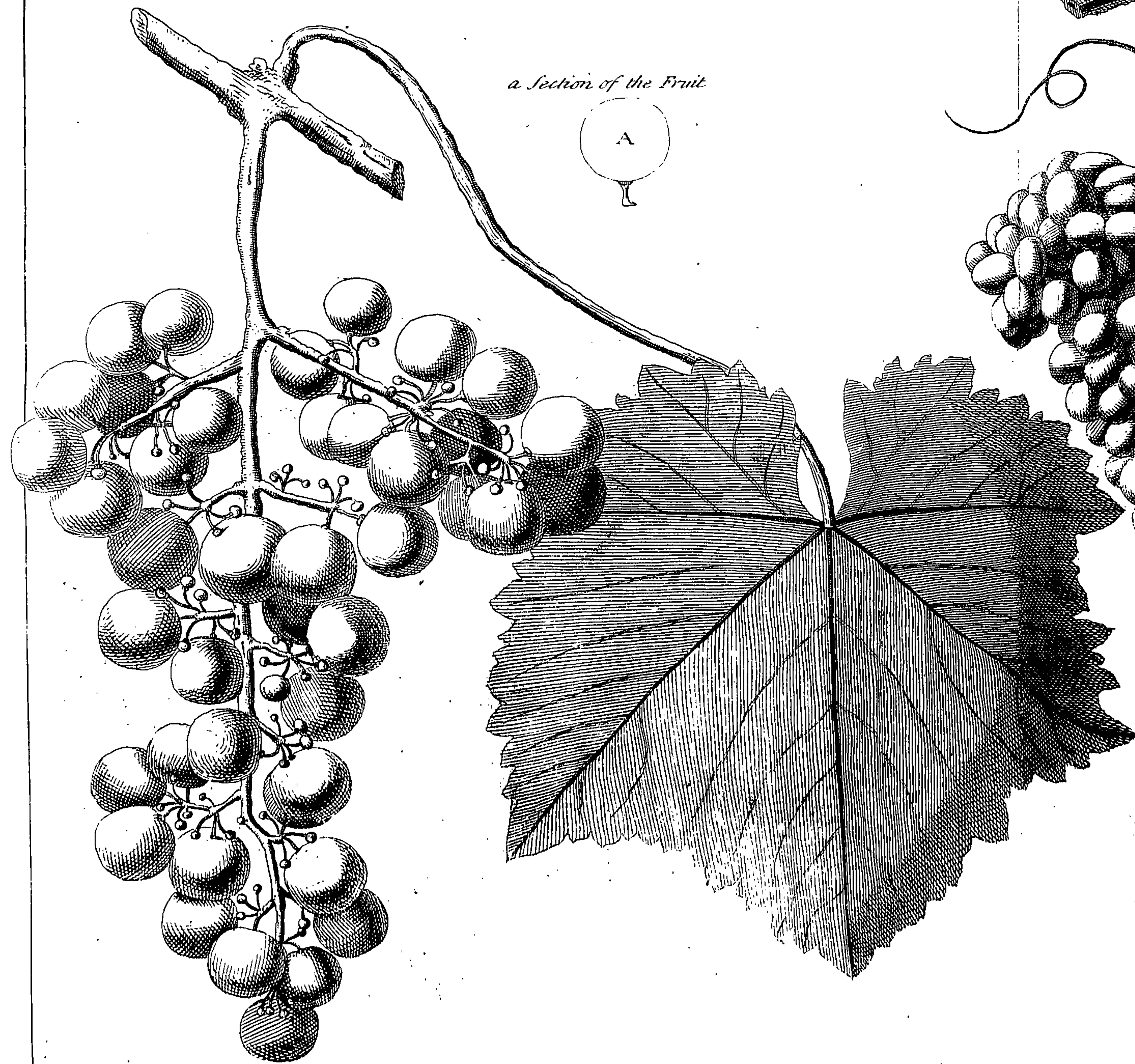
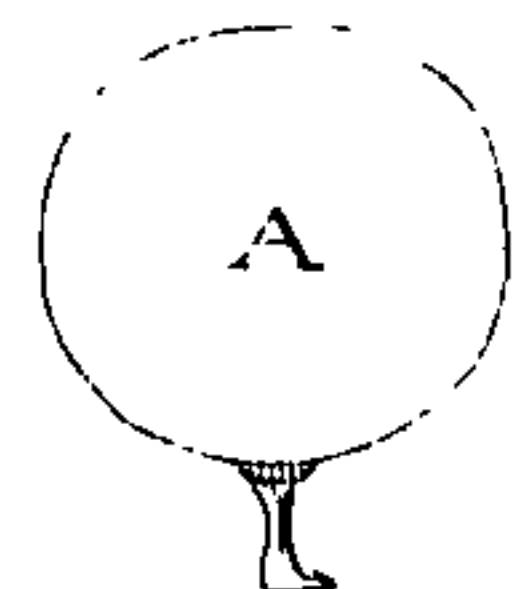
Chrystal Grape
Oct. 10th 1797
South wall

Fig. II.

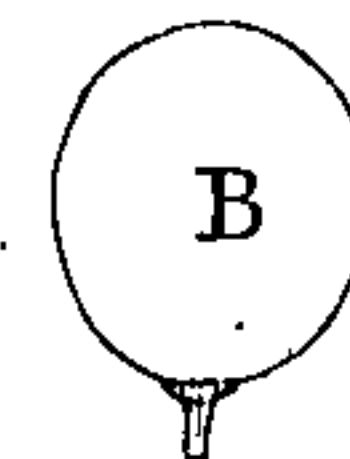
J. Carnitham Sculp.

White Sweetwater Aug. 10th

a Section of the Fruit



a Section of the Fruit



Black Sweetwater Aug. 20th

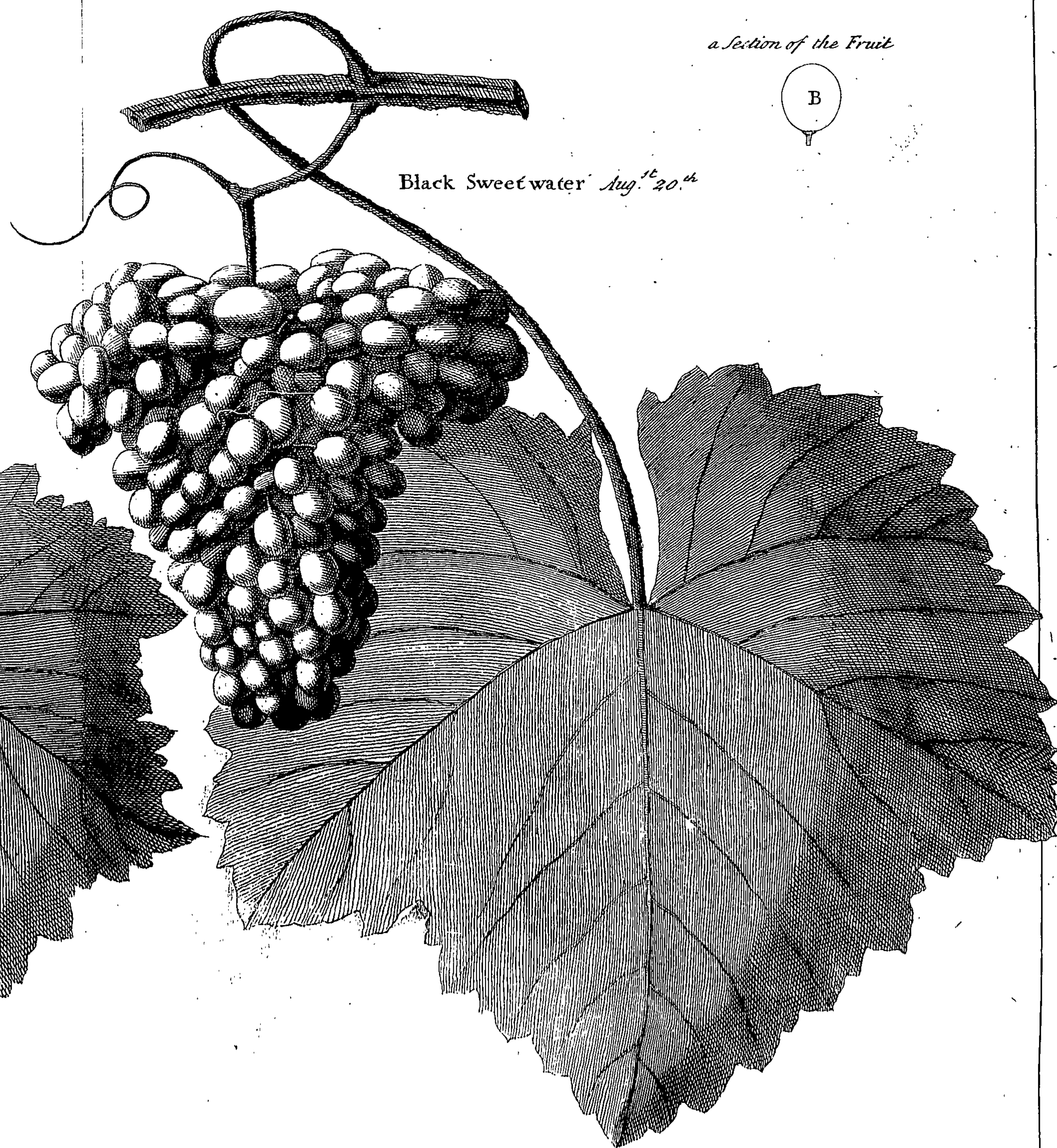


Plate LII.

2^d Crop.
ripe Sep.^r 10.
Dwarf.

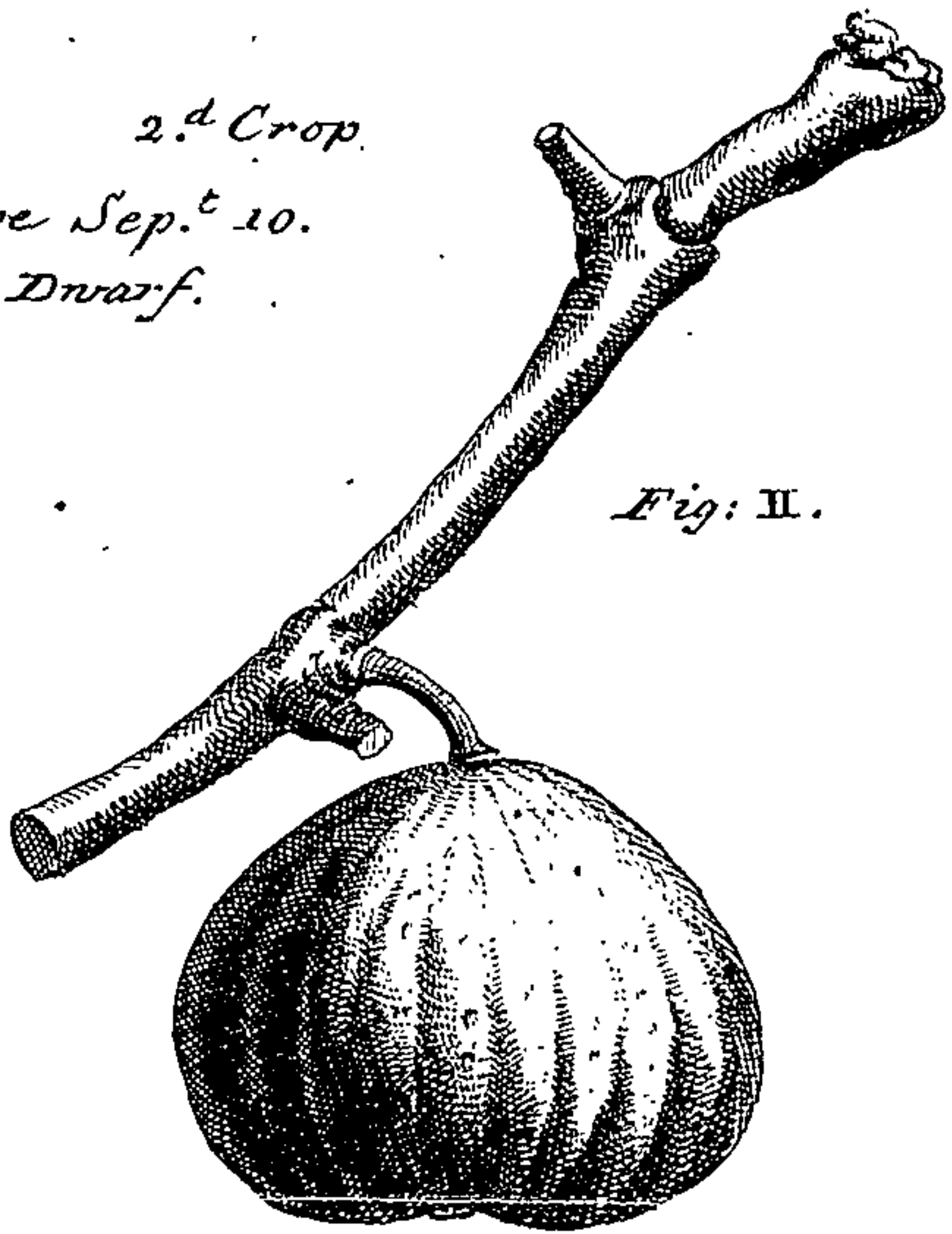


Fig: II.

White Fig. 1st Crop
ripe July 10.
South wall.

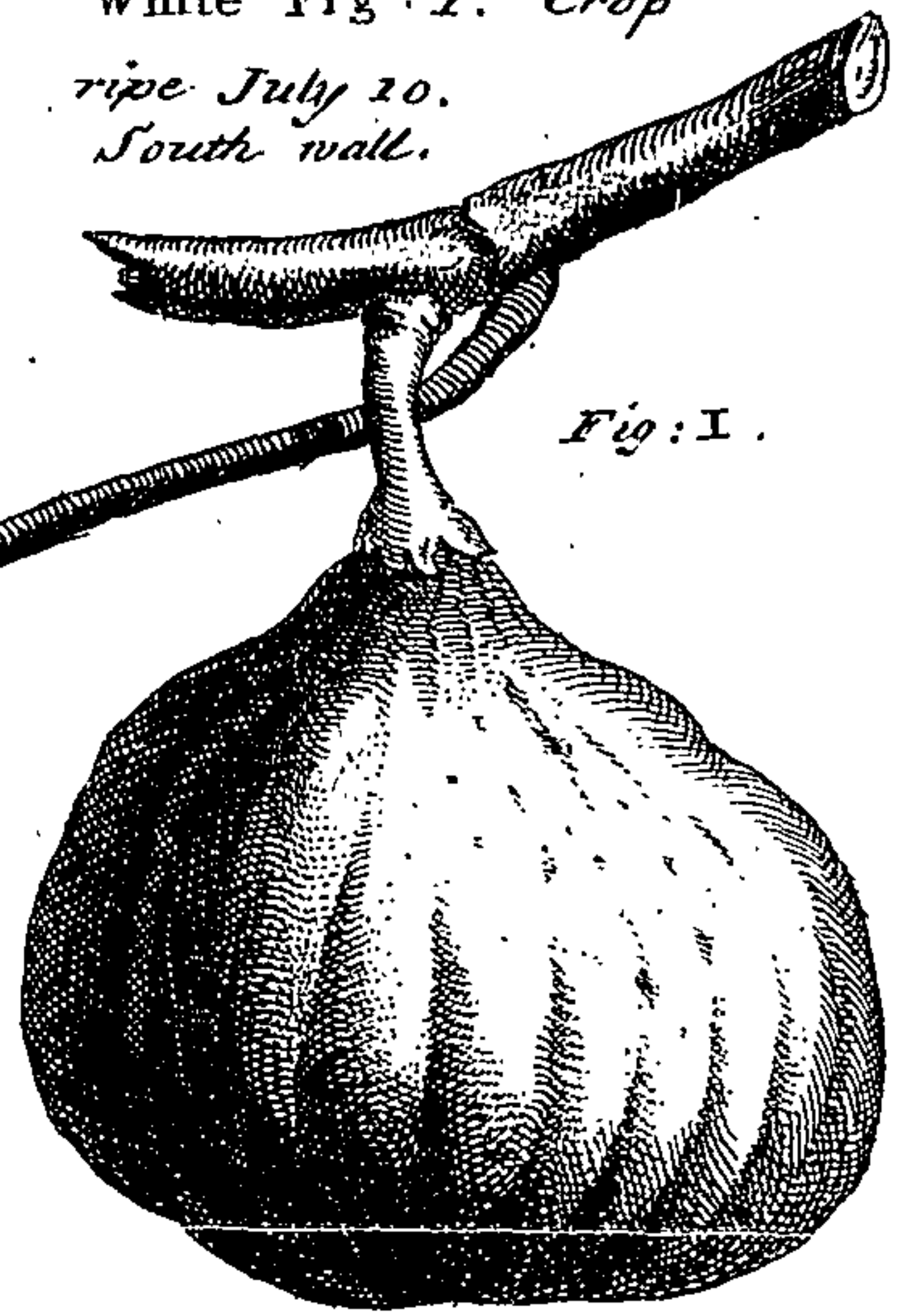
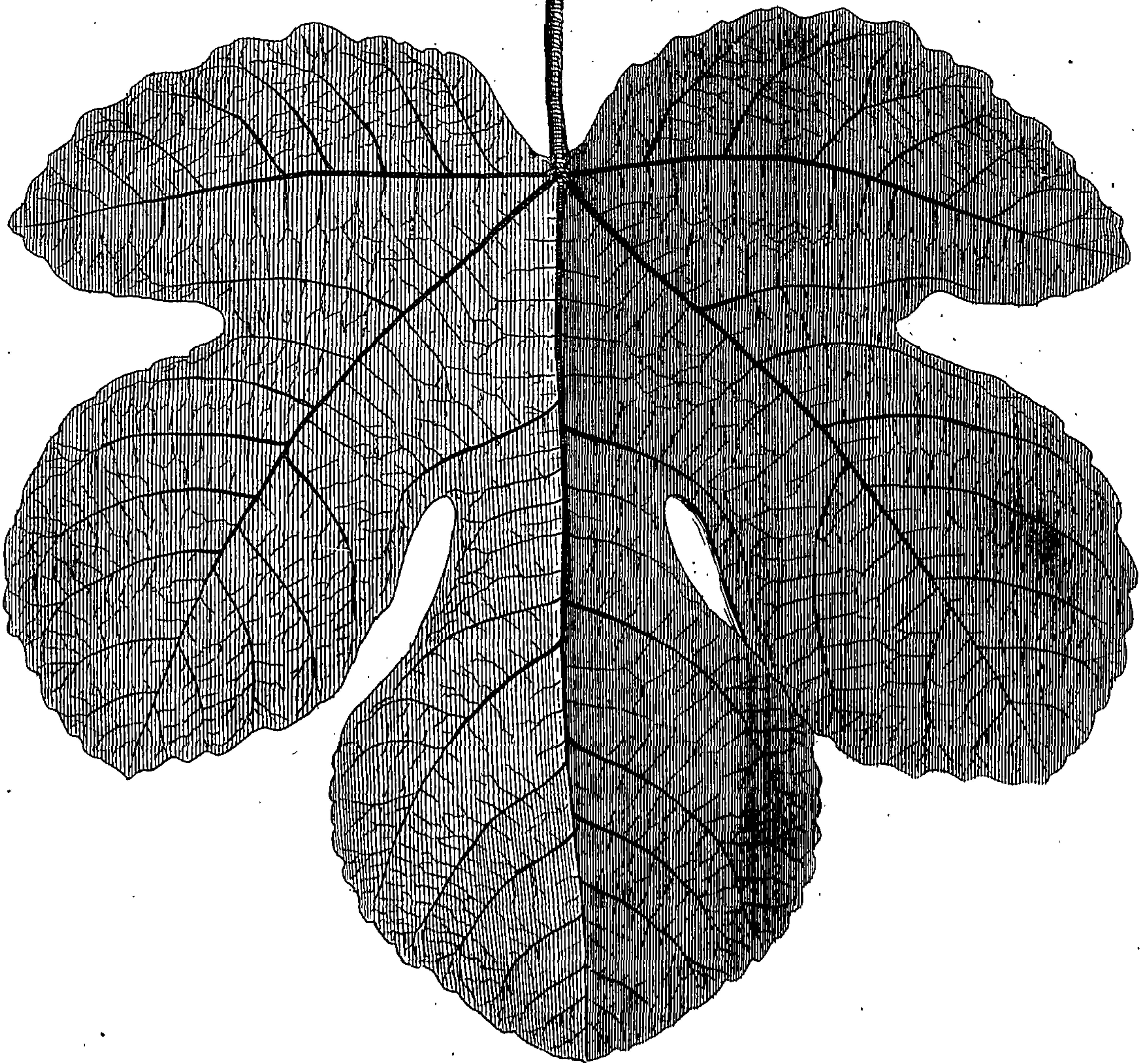
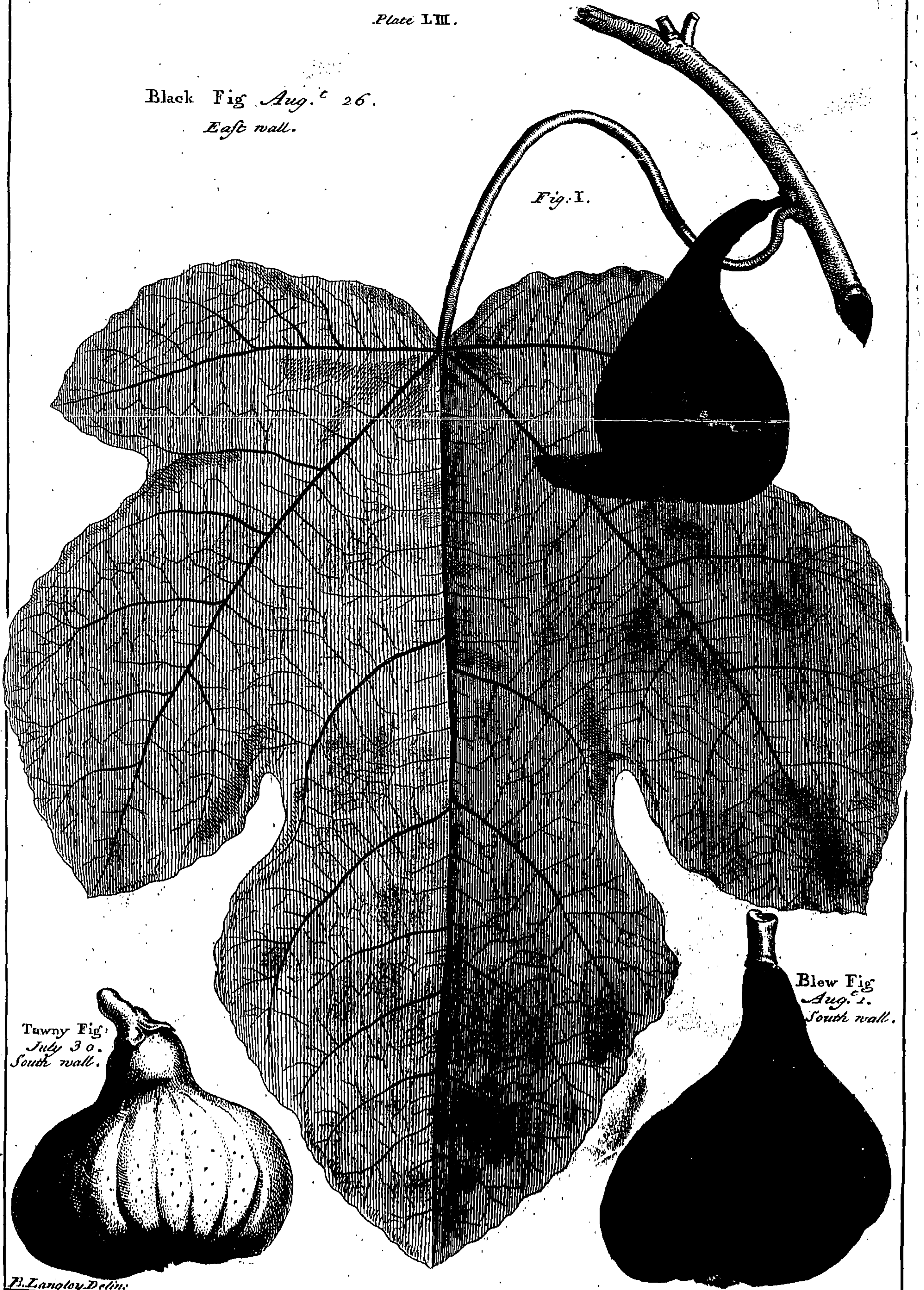


Fig: I.



Black Fig Aug.^c 26.
East wall.

Fig. I.

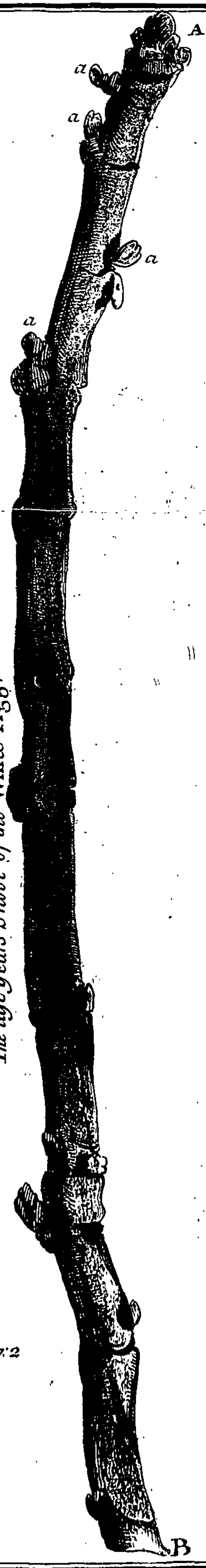


Tawny Fig:
July 30.
South wall.

Blew Fig
Aug. 1.
South wall.

The last Years Shoot of the White Fig.

Fig: 2



The last Years Shoot of the Vine, Pruned after the usual Method of pruning.

Fig: 1



Fig: 3

The Black Mulberry in Bud.

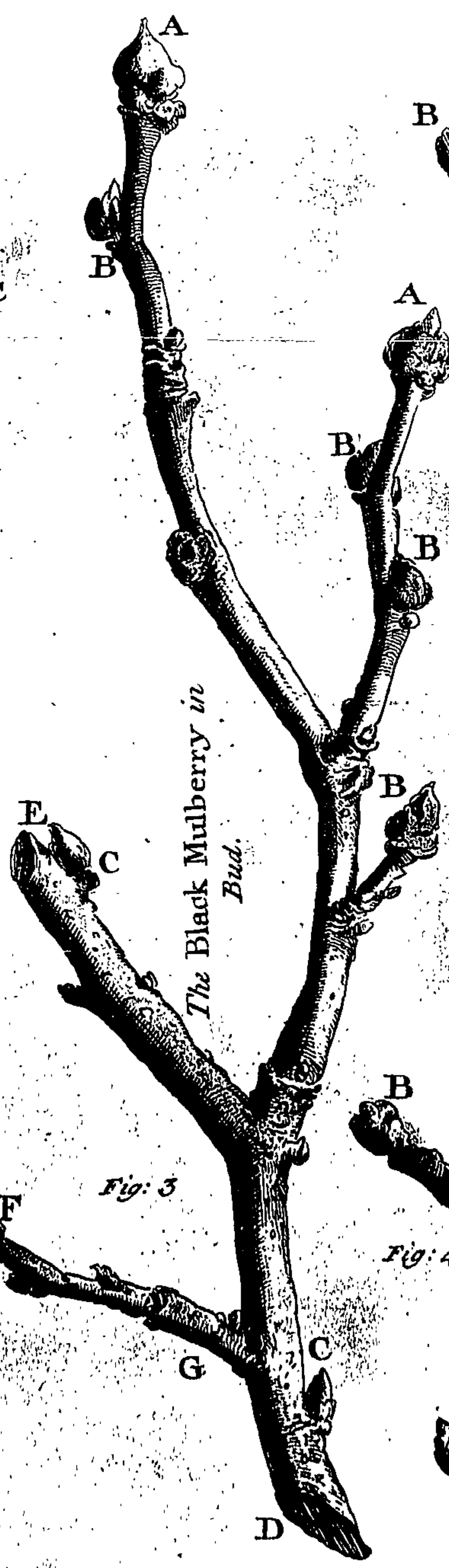


Fig: 4

Two Years wood of the Non-paired Apple



Fig: 5

one Years wood of the Non-paired Apple

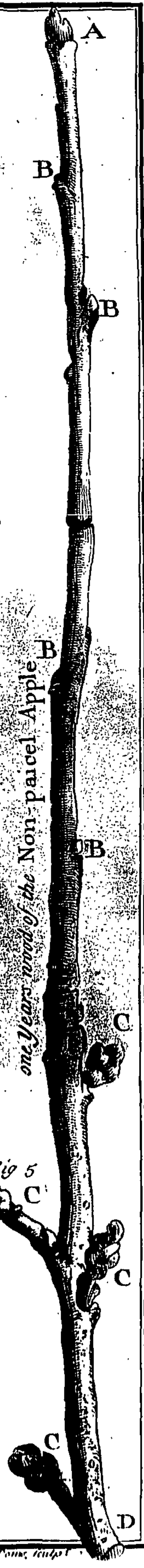


Plate IV..

Fig. IV



Scarlet Strawberry,
in Blossom April 10
1727.

Fig. III

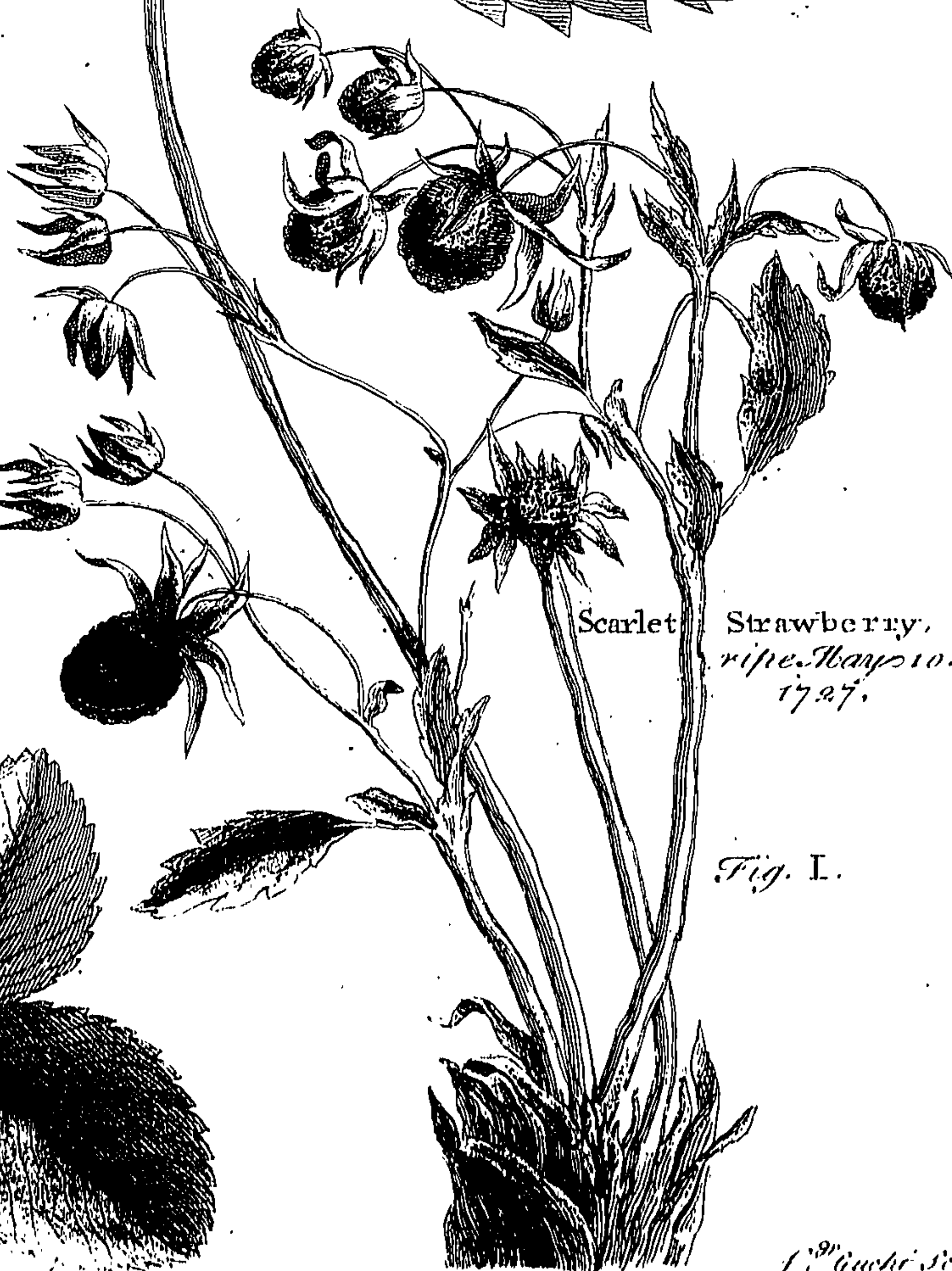


Haut-boy Strawberry
ripe June 1. 1727.



Wood Strawberry
ripe June 10
1727.

Fig. II



Scarlet Strawberry,
ripe May 10.
1727.

Fig. I.

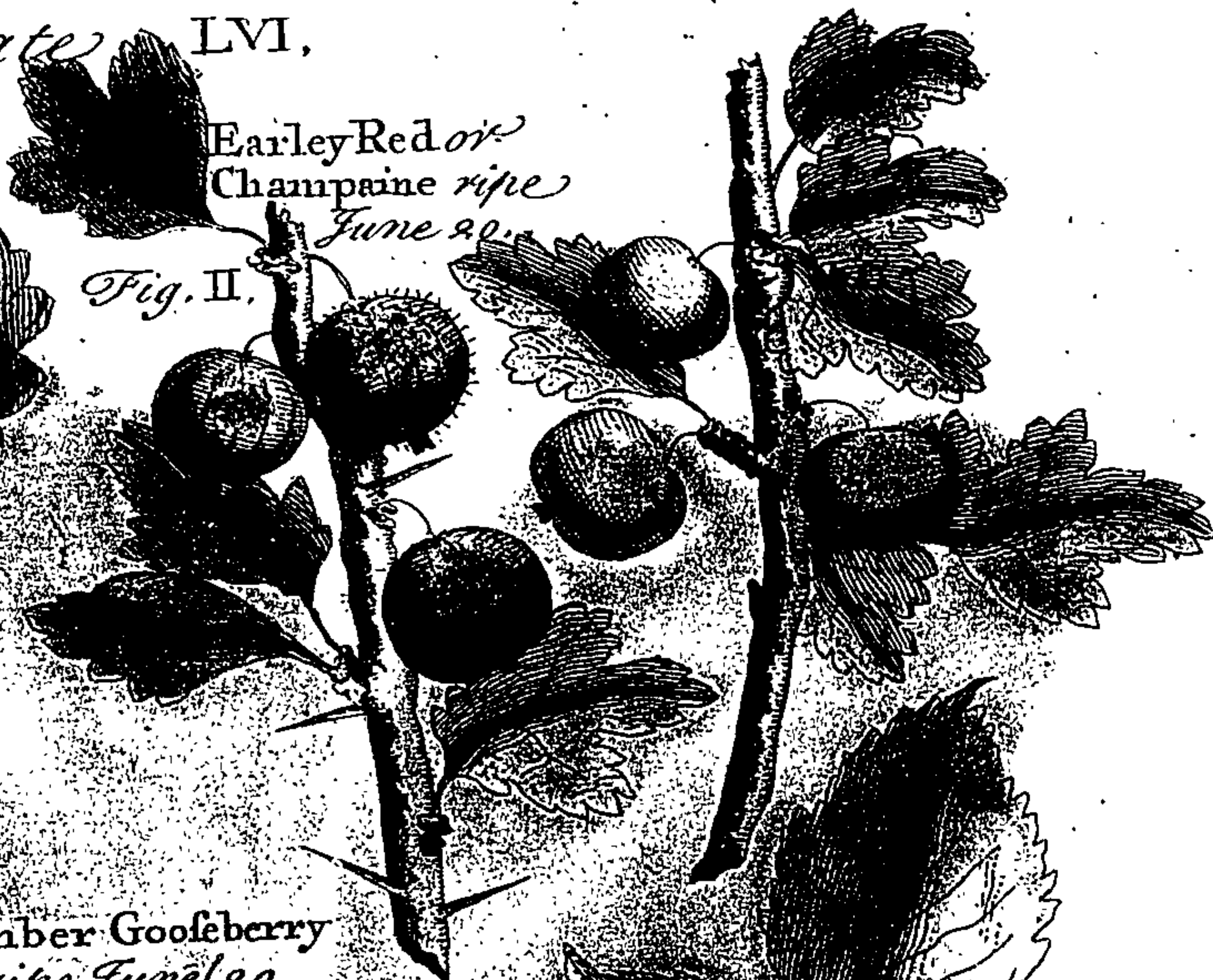
White Holland or Dutch
Gooseberry ripe June 20

Fig. III.



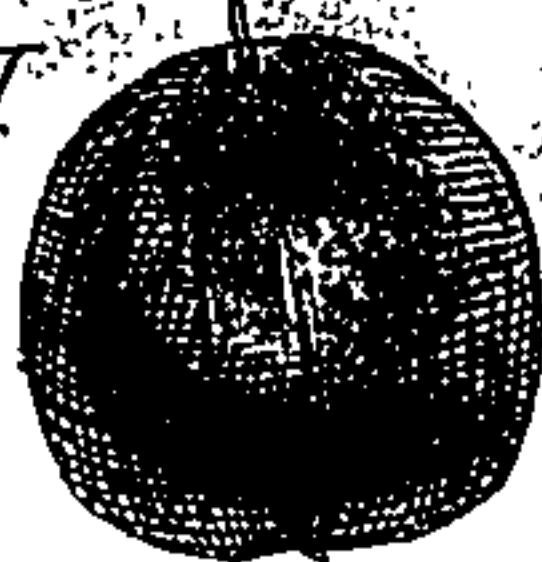
Earley Red or
Champaine ripe
June 20

Fig. II.



Amber Gooseberry
ripe June 20

Fig. IV.



Scarlet Raspberry
ripe June 1

1727

Fig. V.



White Dutch
Currant.
ripe June 6
1727.



White Dutch
Currant in
Blossom
March 26

Fig. VII



Fig. VIII

Gooseberry in
Blossom
March 26.

Amber Gooseberry fit for Tarts.
May. 6. 1727.

J. G. Gucht. Sculp.

White Philbert.

July 15. 1727.

Fig: I.

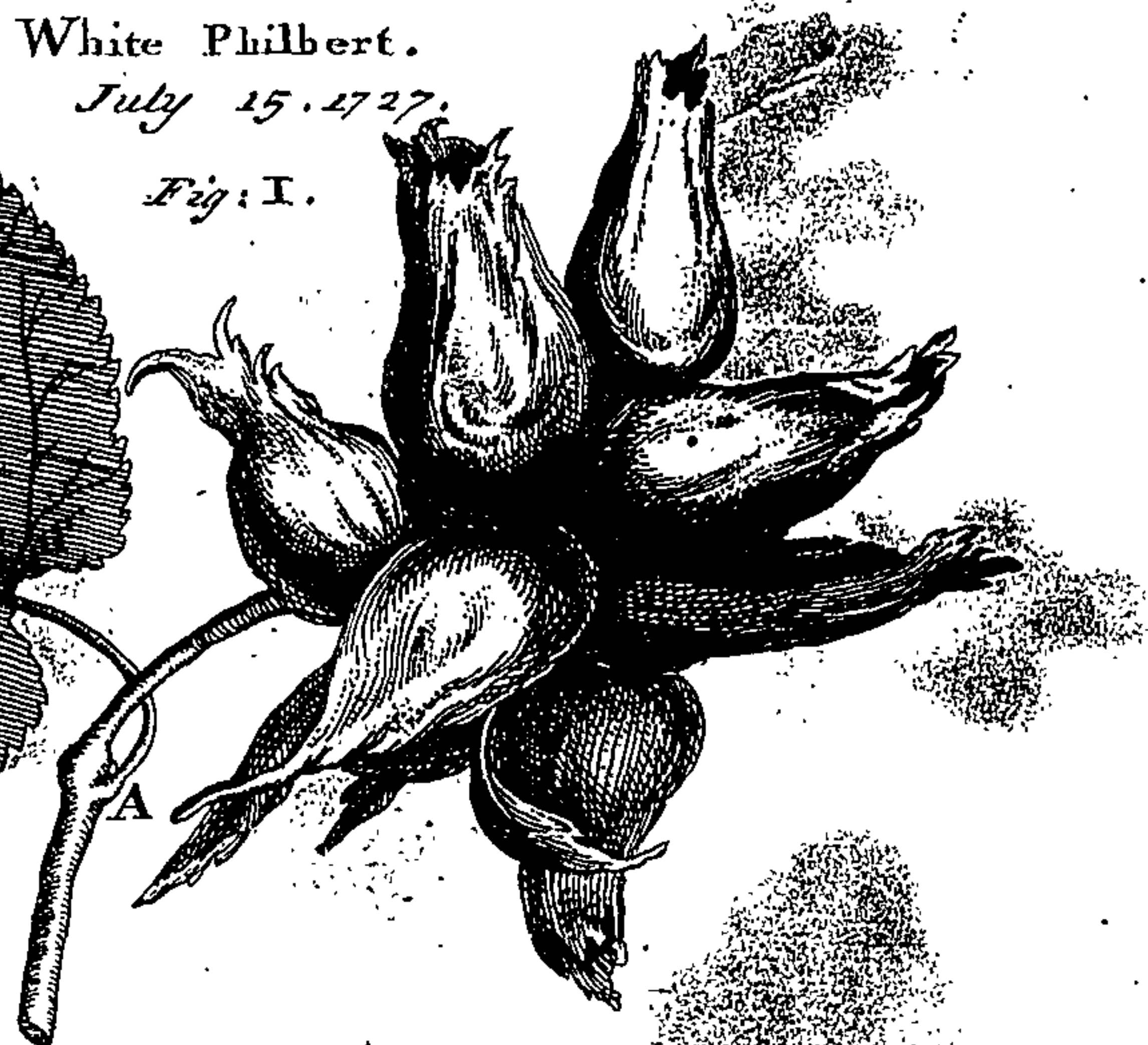


Fig: II.

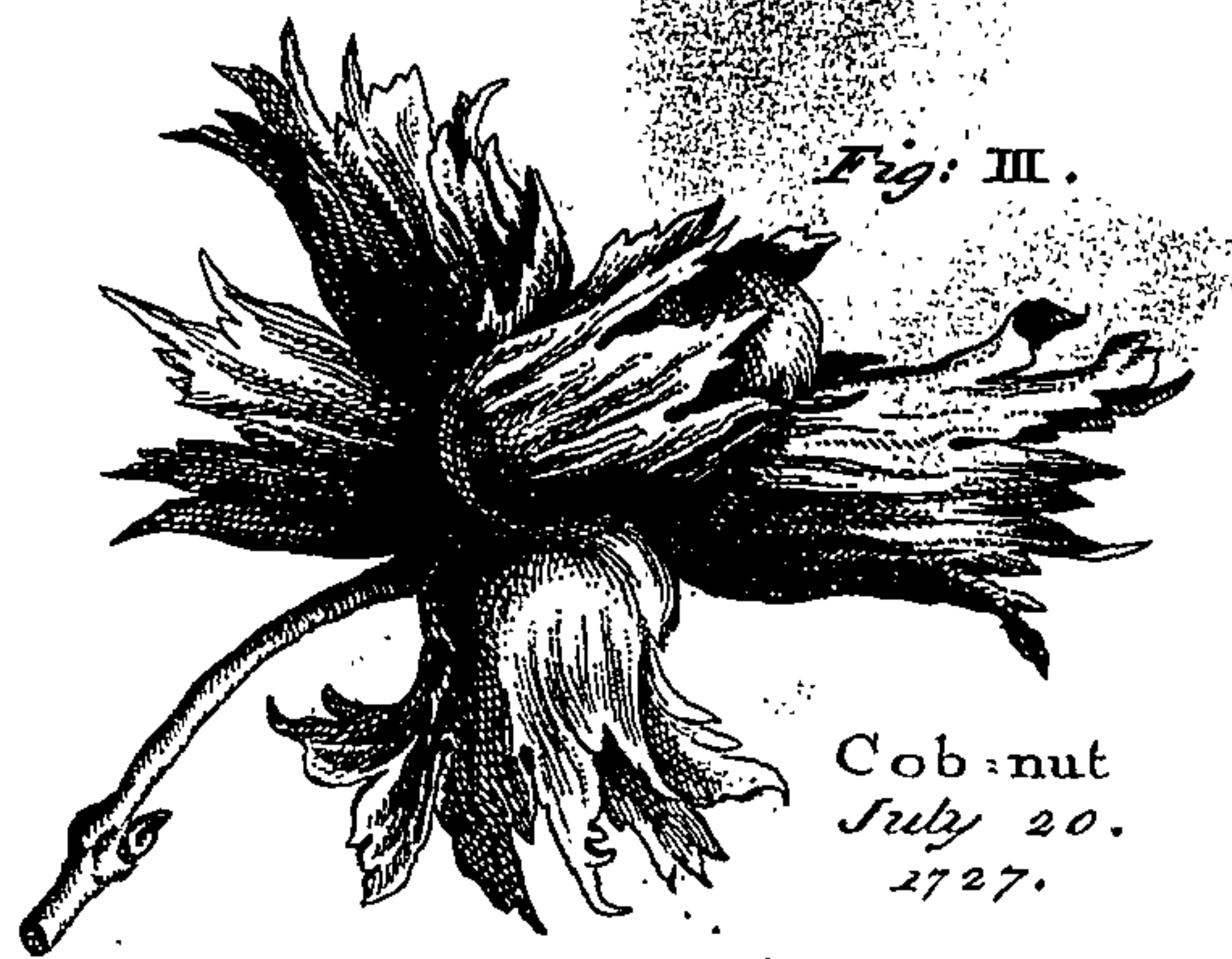
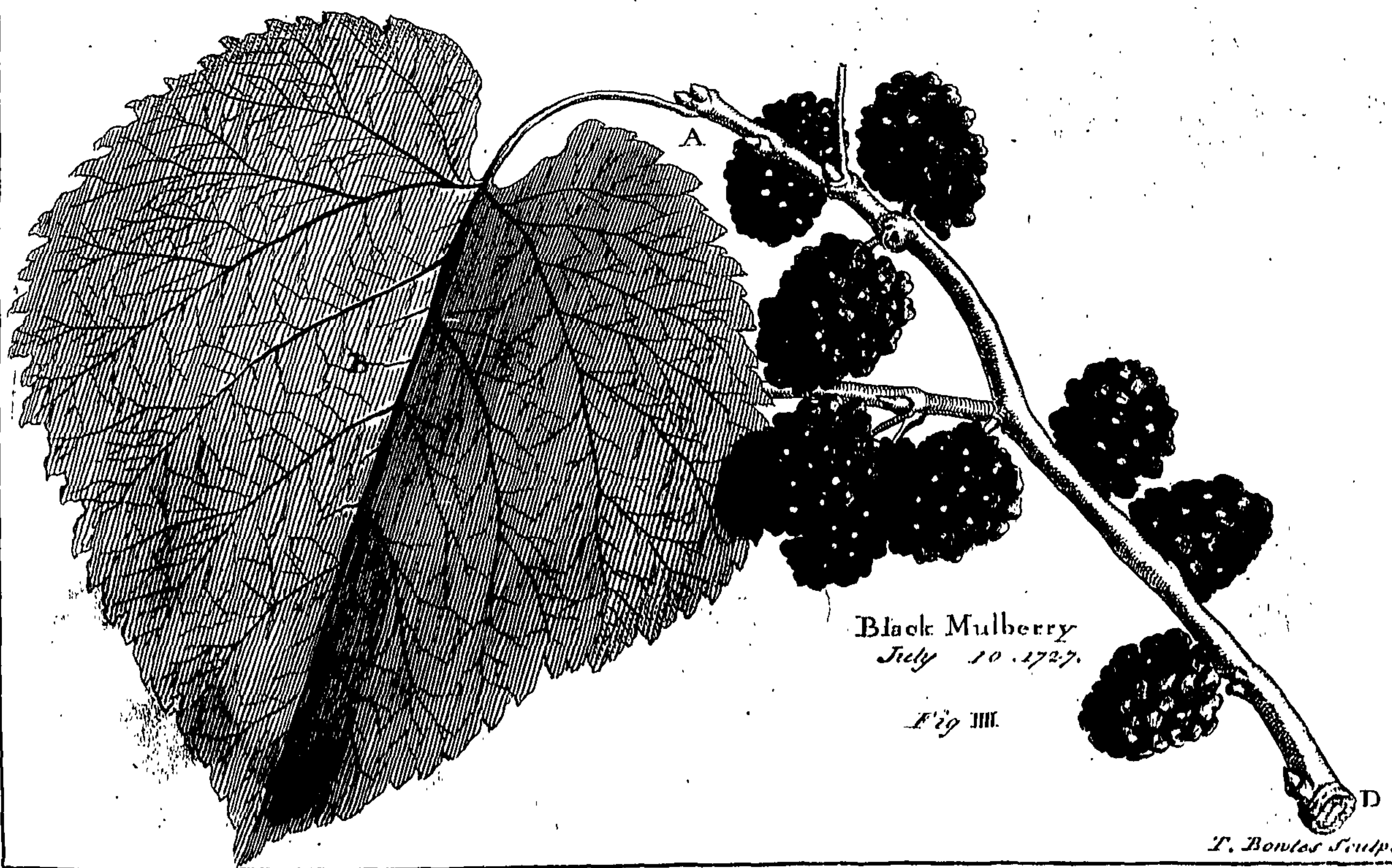


Fig: III.

Cob .nut
July 20.
1727.



Black Mulberry

July 10. 1727.

Fig III.

T. Bowles Sculp.

The last years shoot of Walnut preparing its
Katkins, and buds for growth.
March 26. 1727.

Black
Mulberry as
they first appear
April 27. 1727.

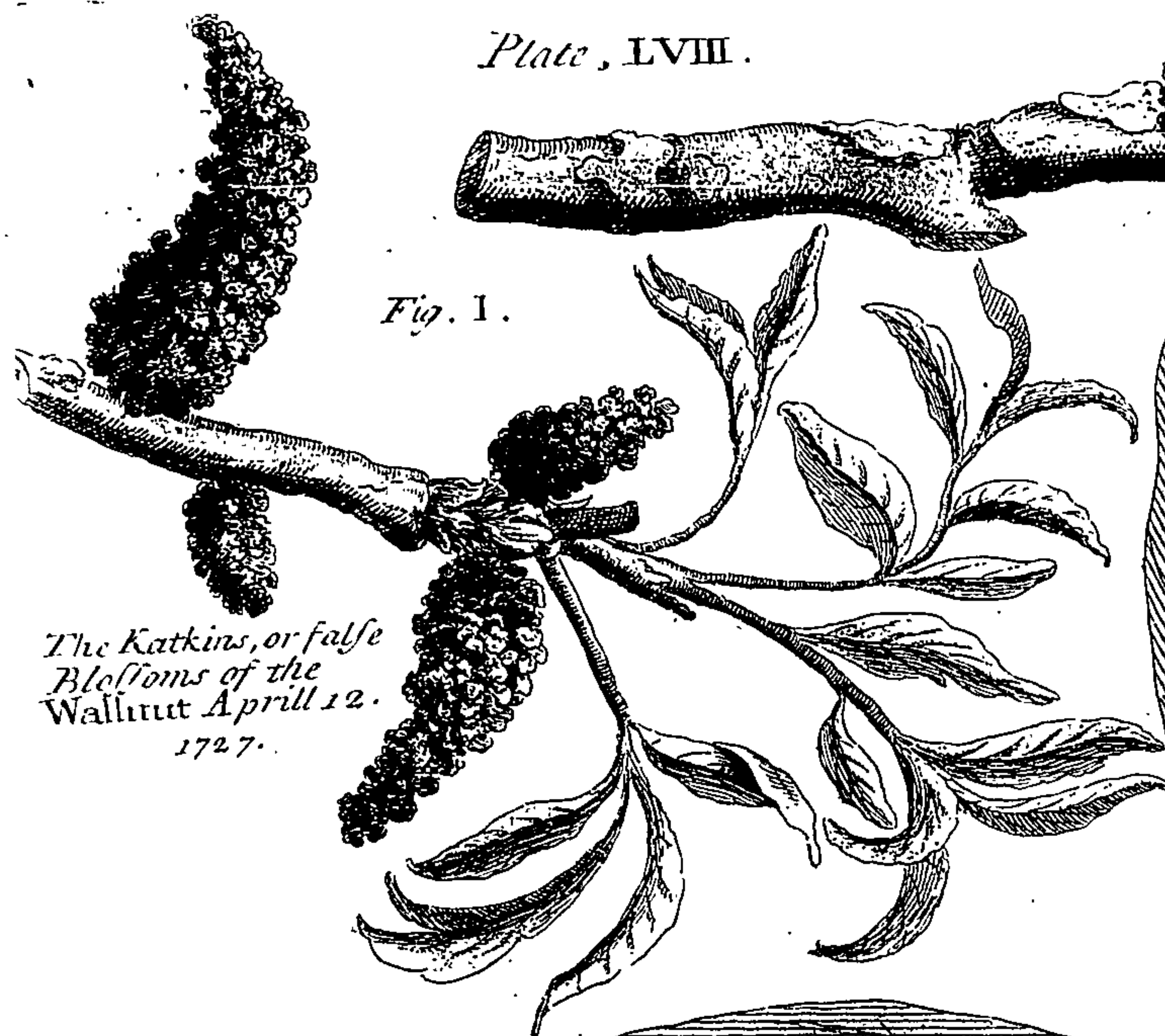


Fig. I.

The Katkins, or false
Blossoms of the
Walnut April 12.
1727.

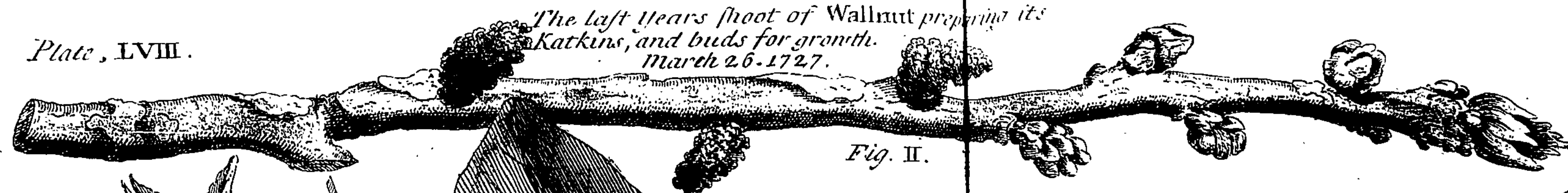


Fig. II.

French Walnut
opened.

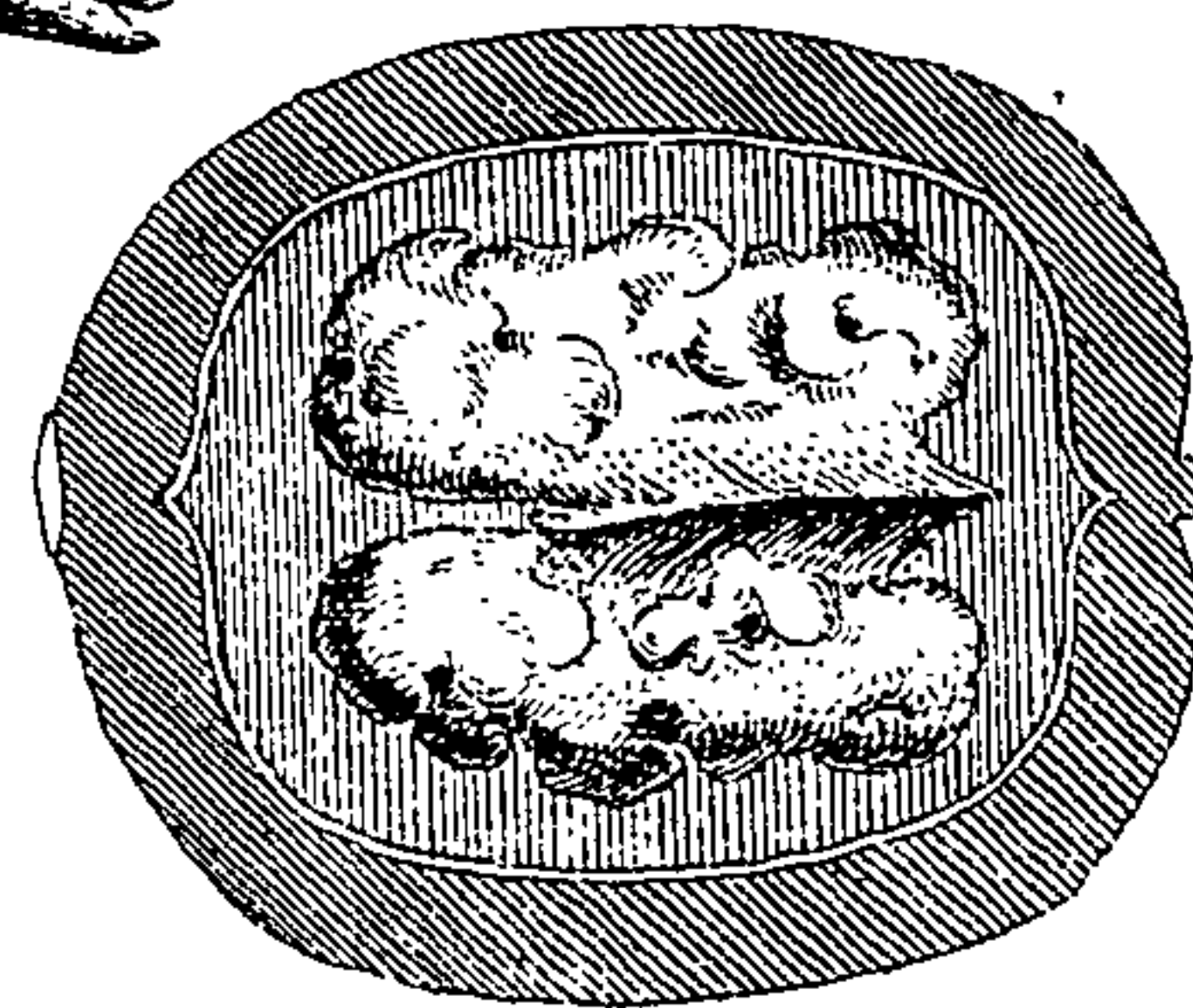
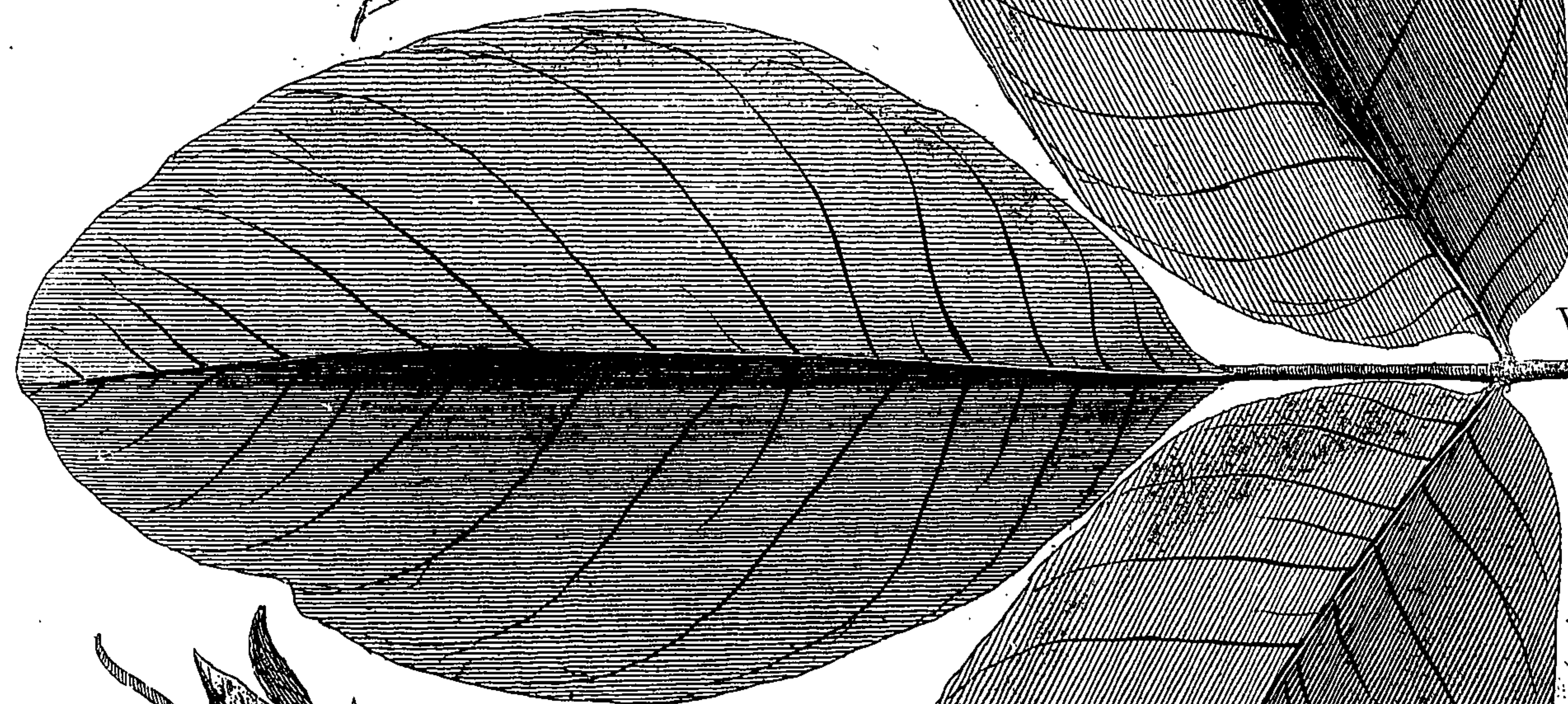
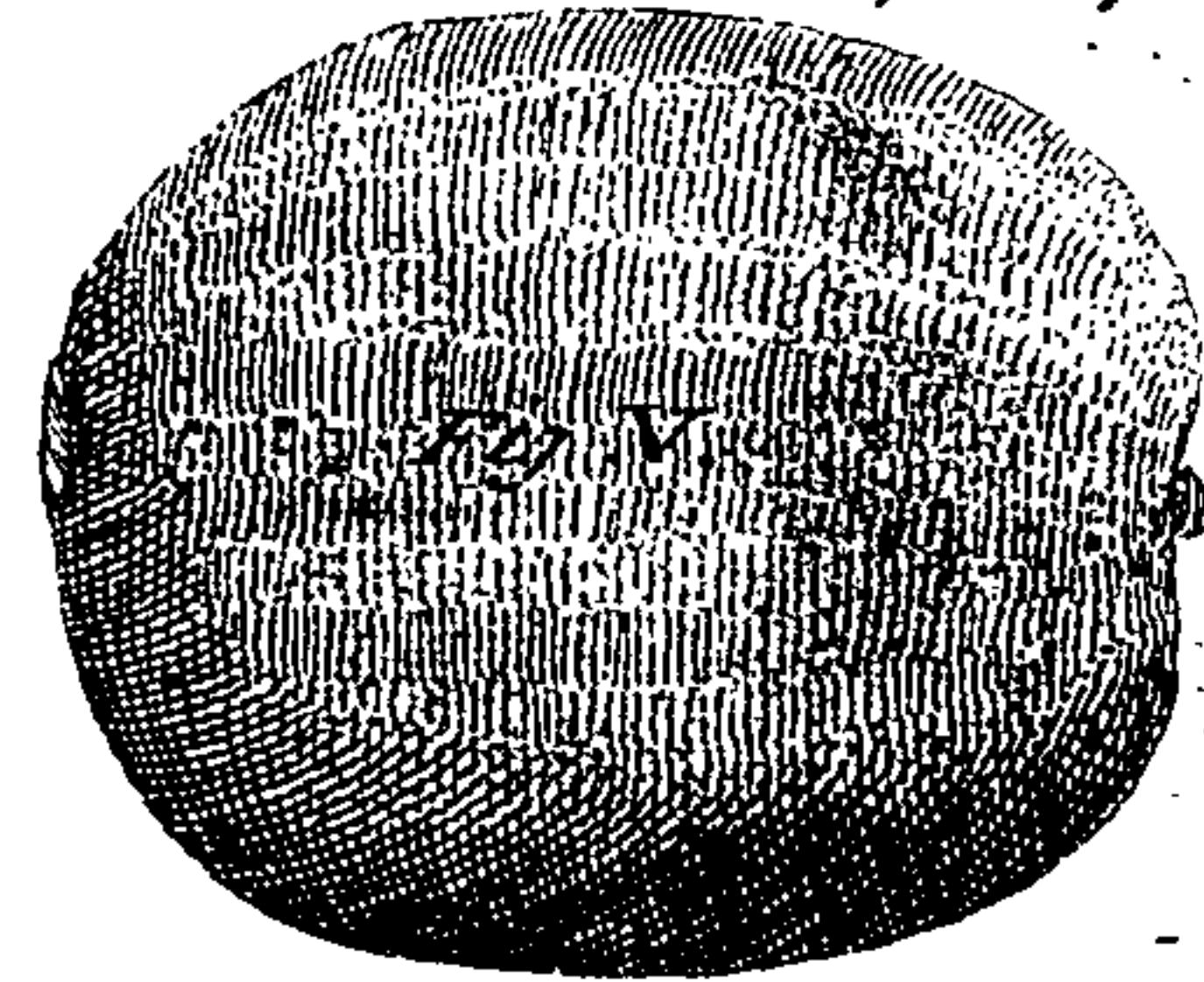


Fig. III.



Fig. III.

French Walnut
Entire. Ripe Sept. 1. 1727.



Walnut Leaf

in its

Maturity

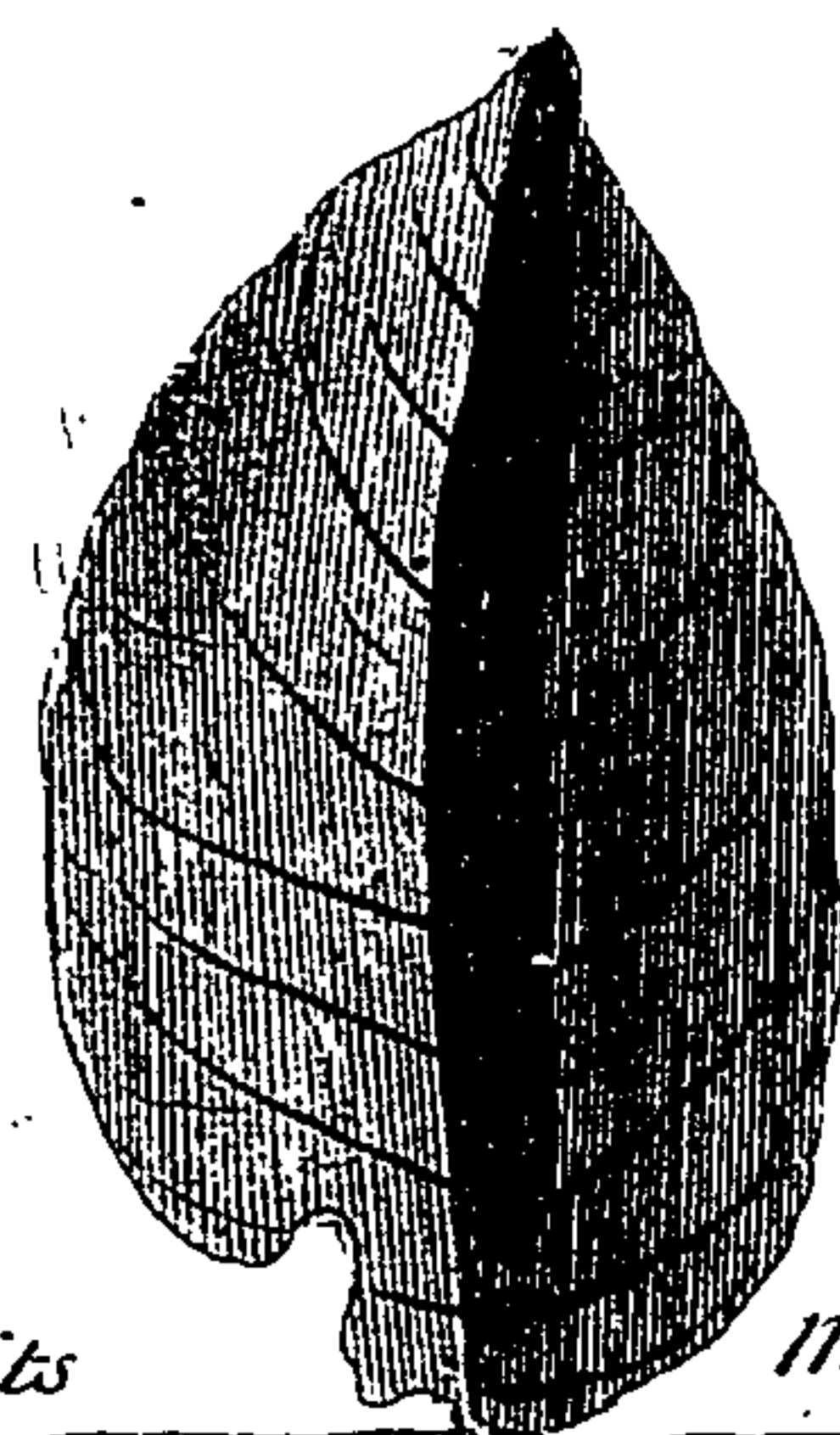
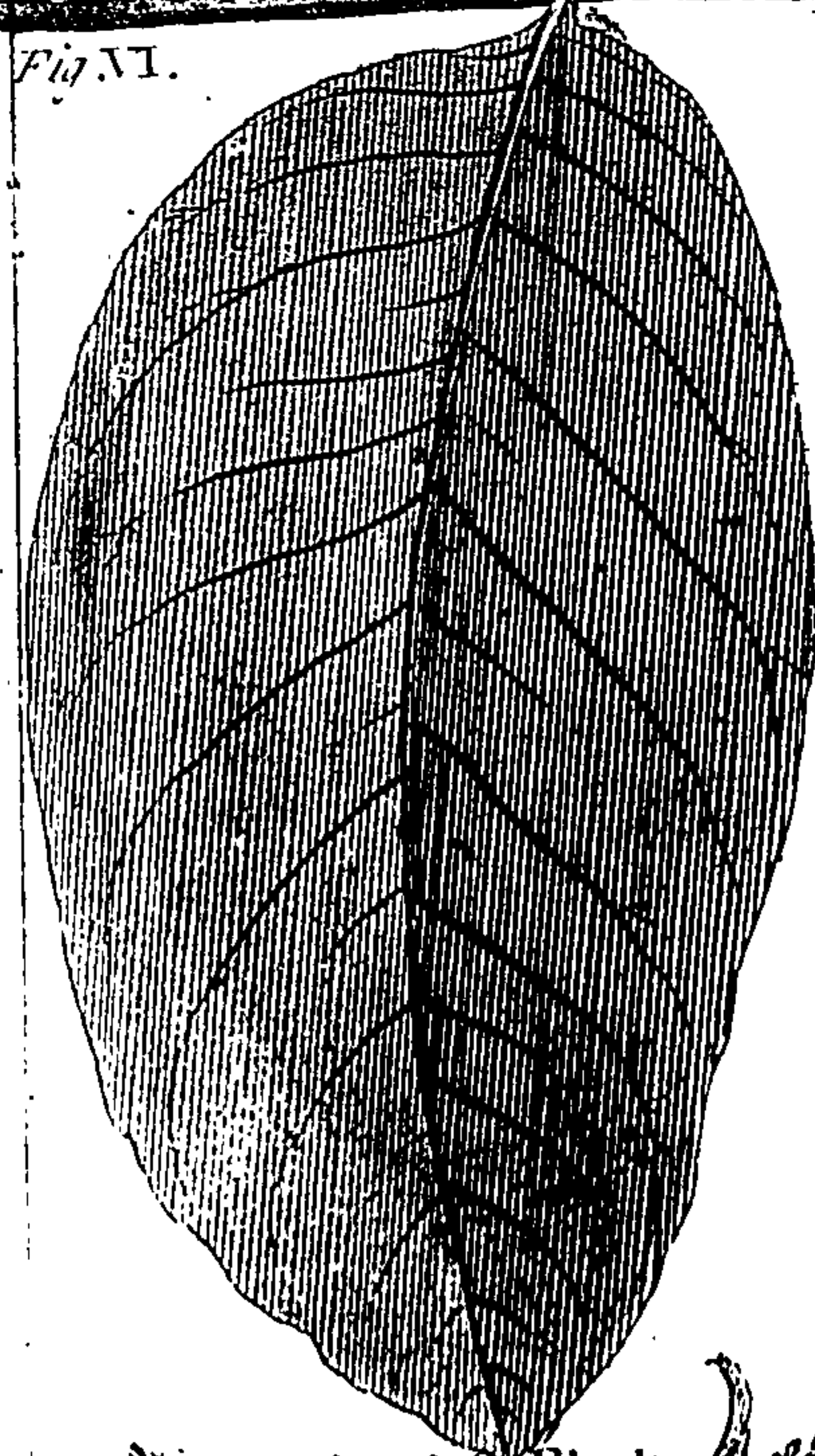


Fig. VI.



Small English
Walnut



Large English
Walnut. opened.

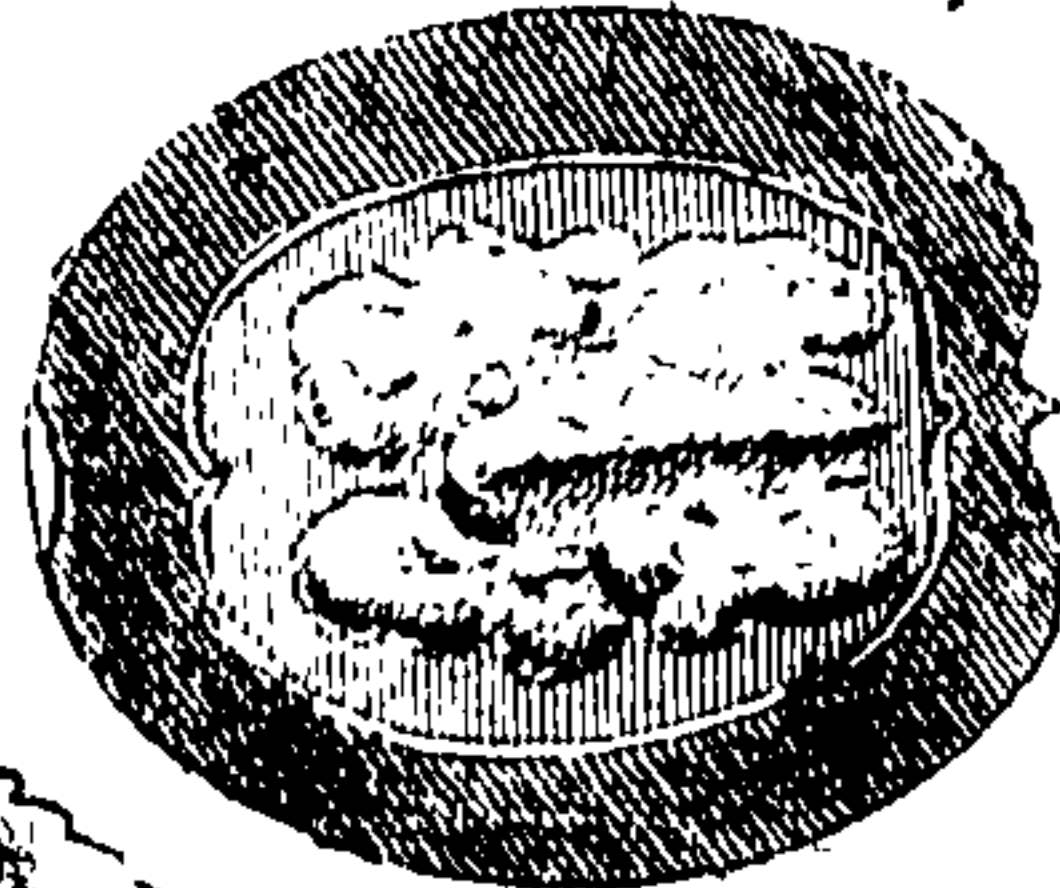
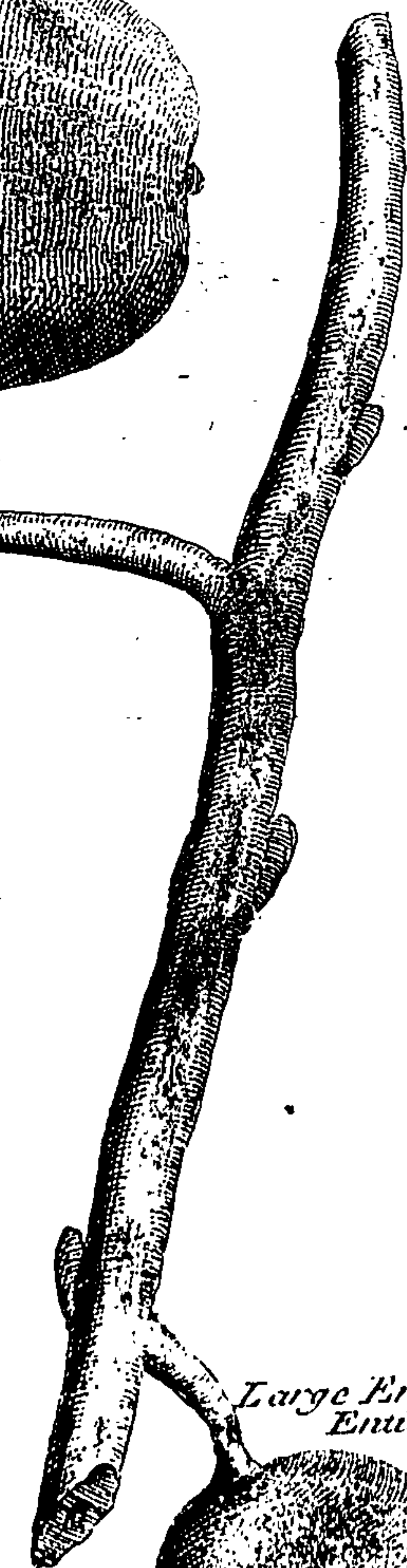


Fig. IX.



Large Eng. Walnut
Entire. Sep. 1.
1727.

Fig. X.



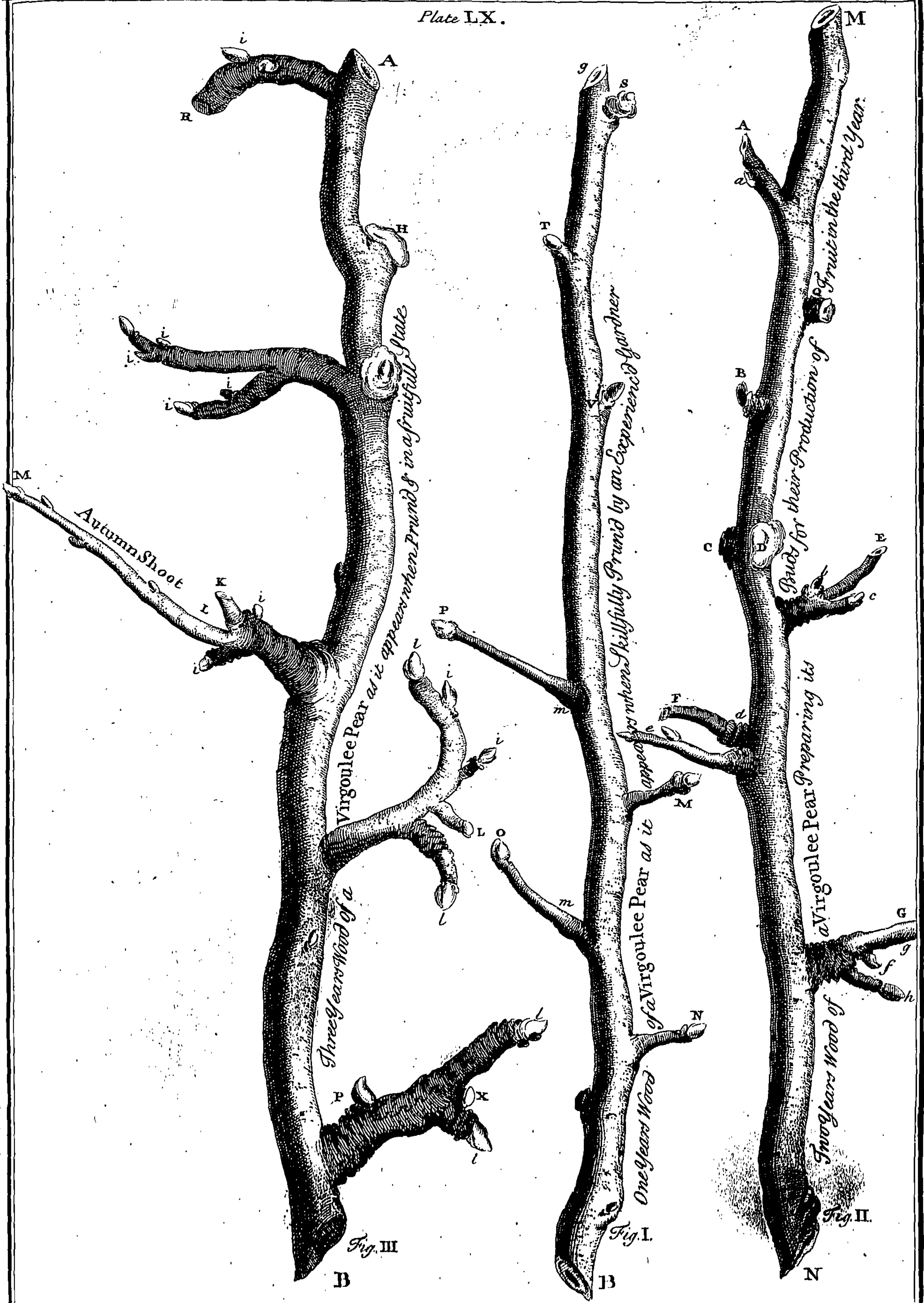
Fig. VII.

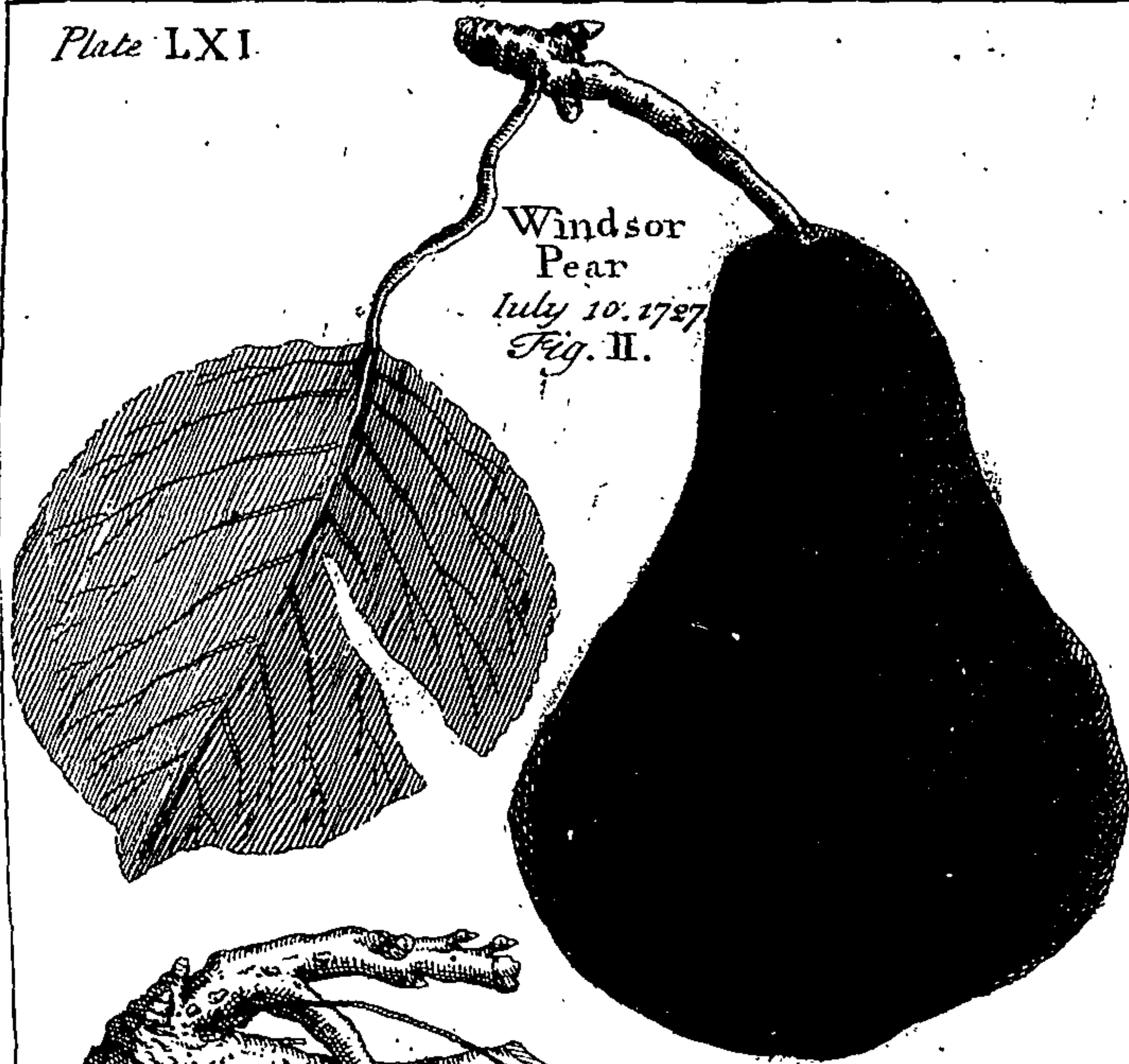
Young Walnuts as they
first appear in the Spring.
April 27. 1727.



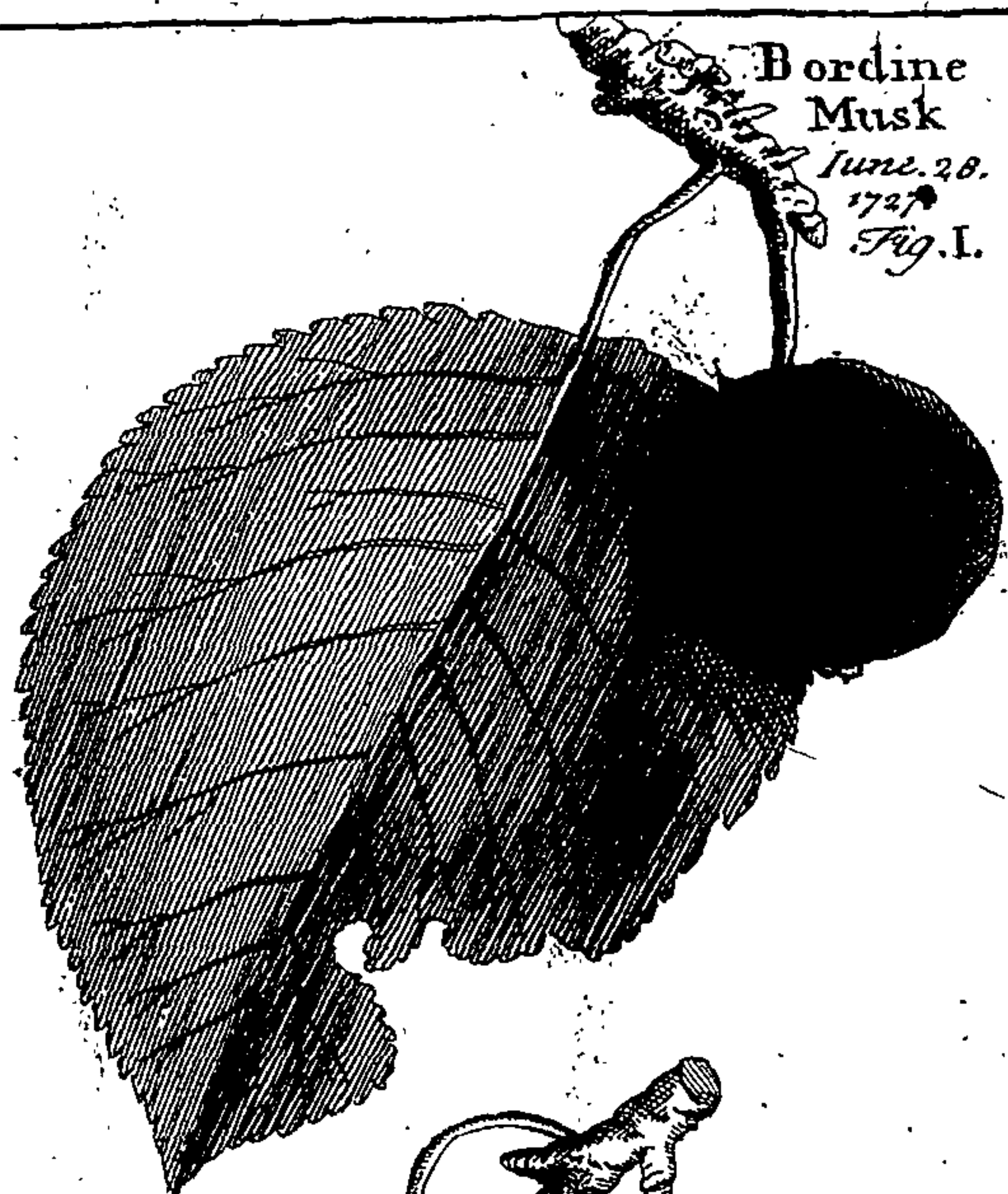
Katkins of the Black
Mulberry May 9
1727.

Fig. VIII.

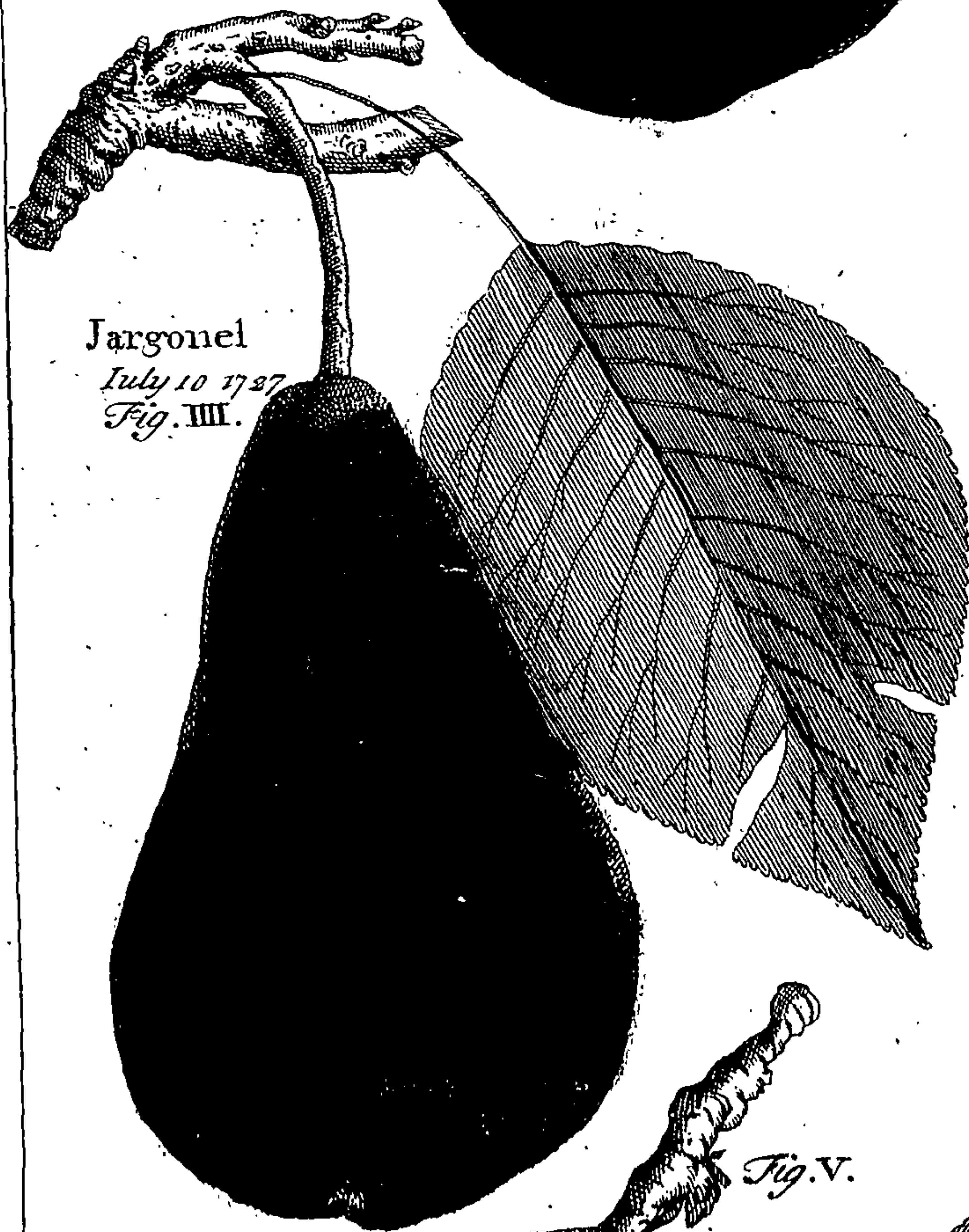




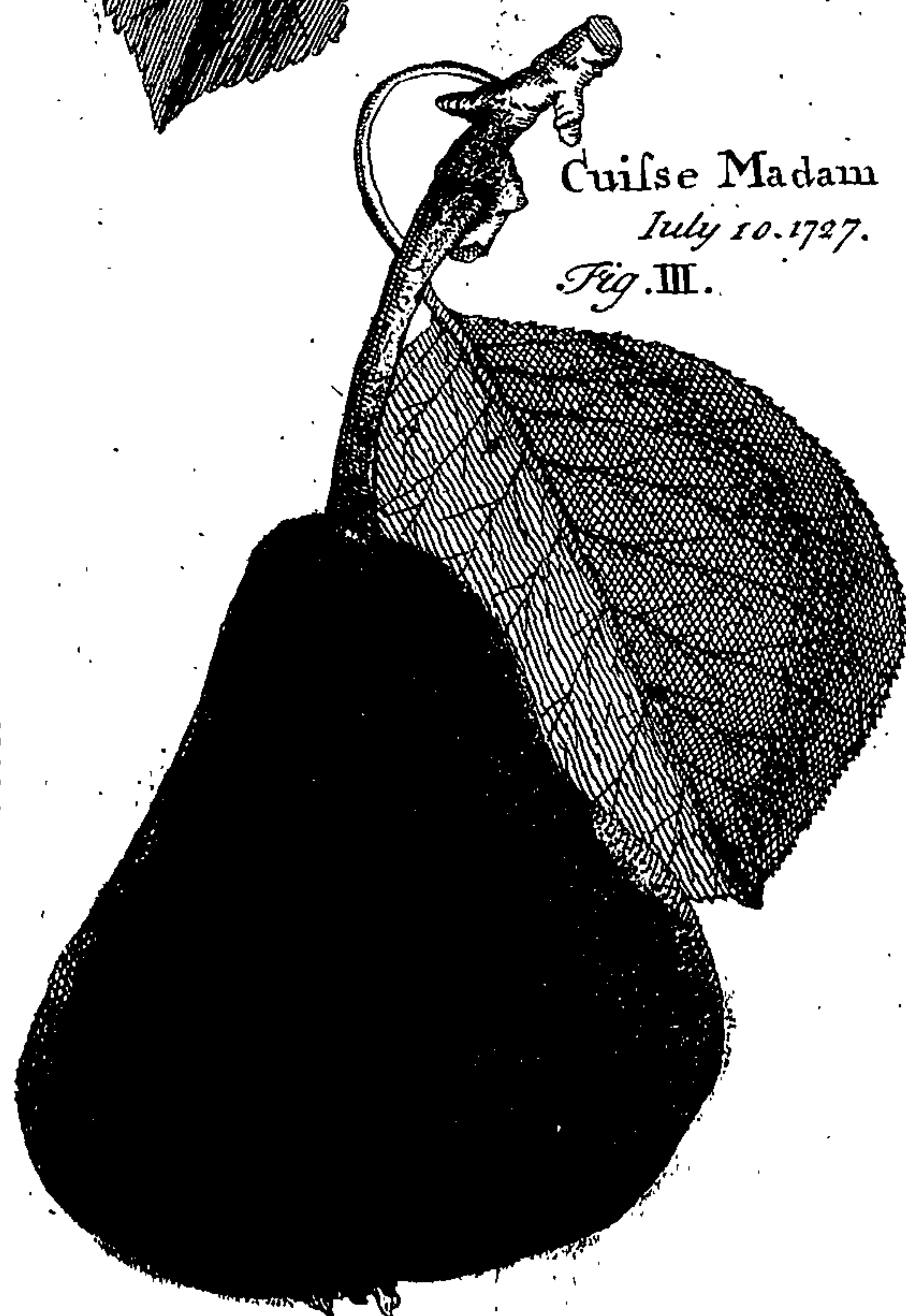
Windsor
Pear
July 10. 1727
Fig. II.



Bordine
Musk
June 28.
1727
Fig. I.



Jargonel
July 10 1727
Fig. III.



Cuilse Madam
July 10. 1727.
Fig. III.

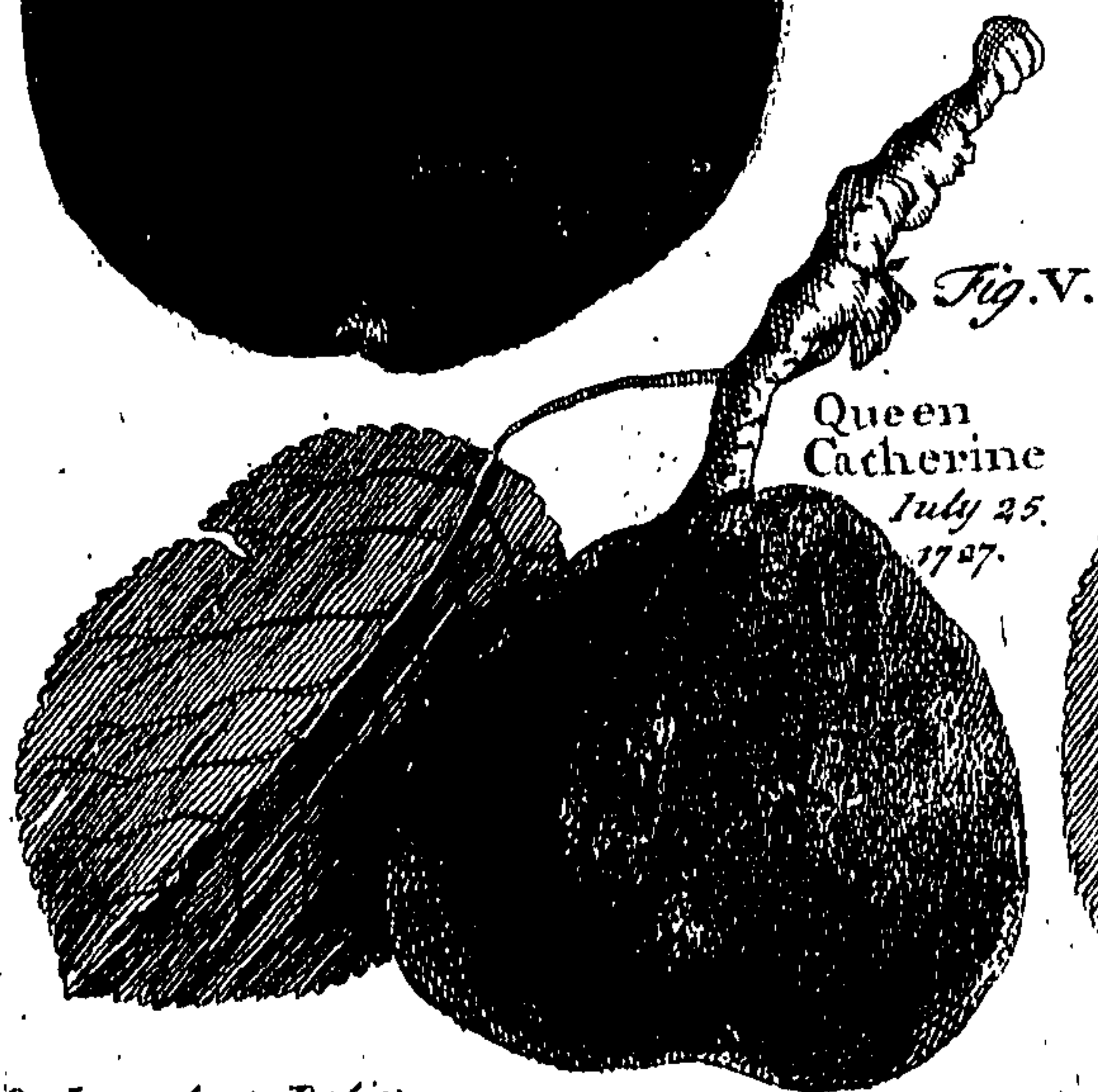
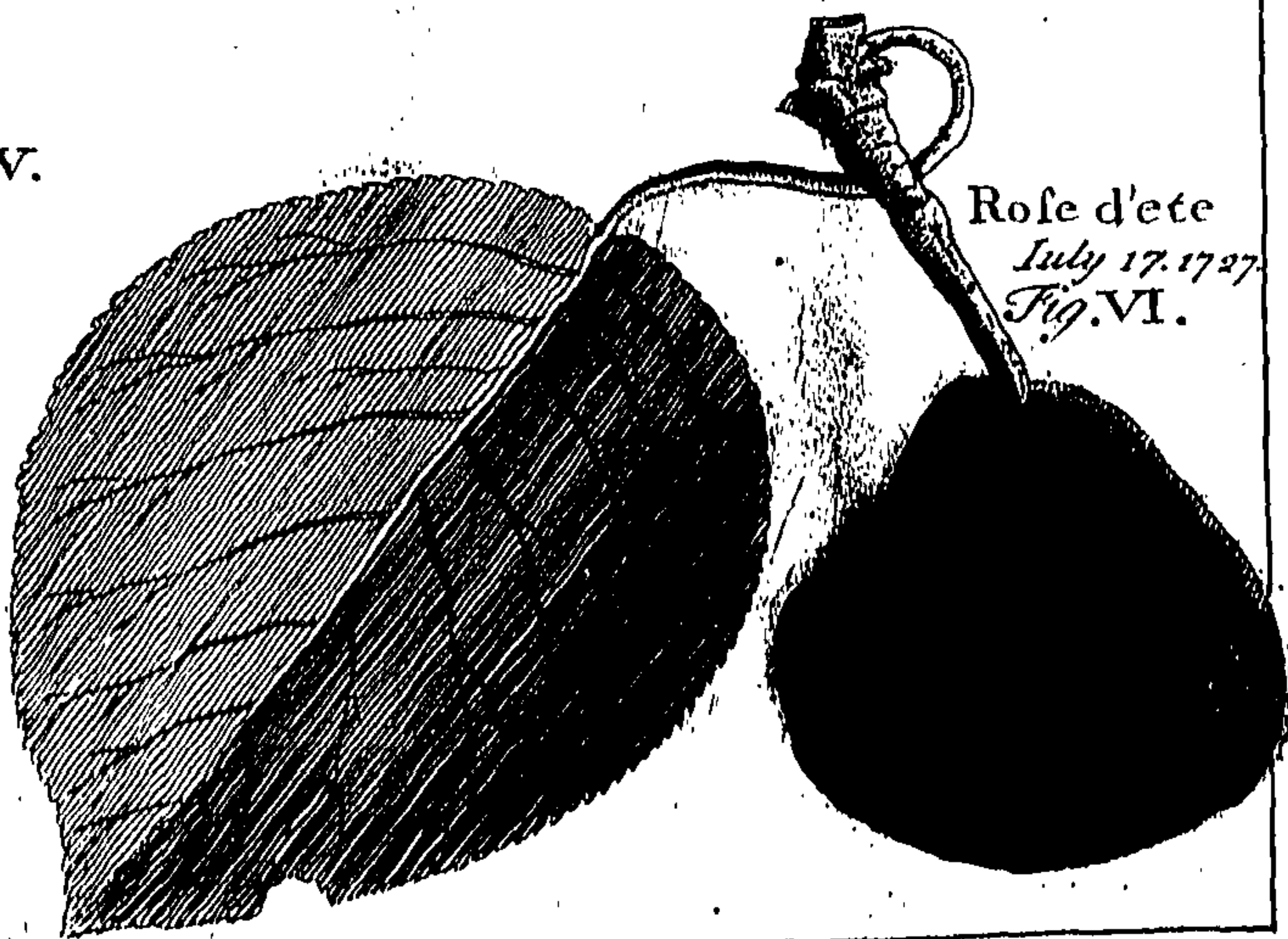


Fig. V.
Queen
Catherine
July 25.
1727.



Rose d'ete
July 17. 1727.
Fig. VI.

Vermillion

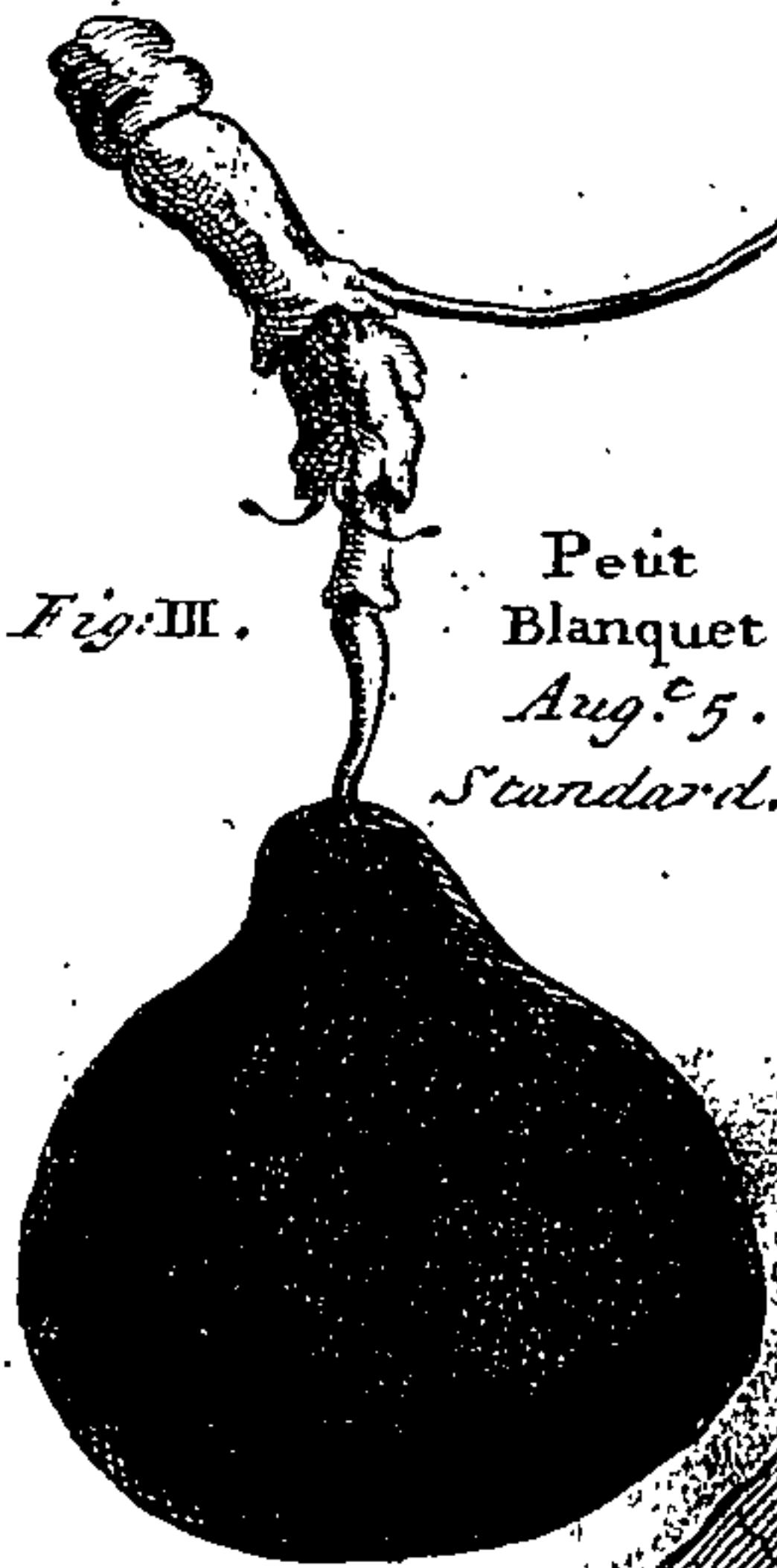
July 17.
S.E. wall 20. Deg.

Fig. I.

Green
chisel

July 20. S.E. Wall.
45. Deg.

Fig. II.



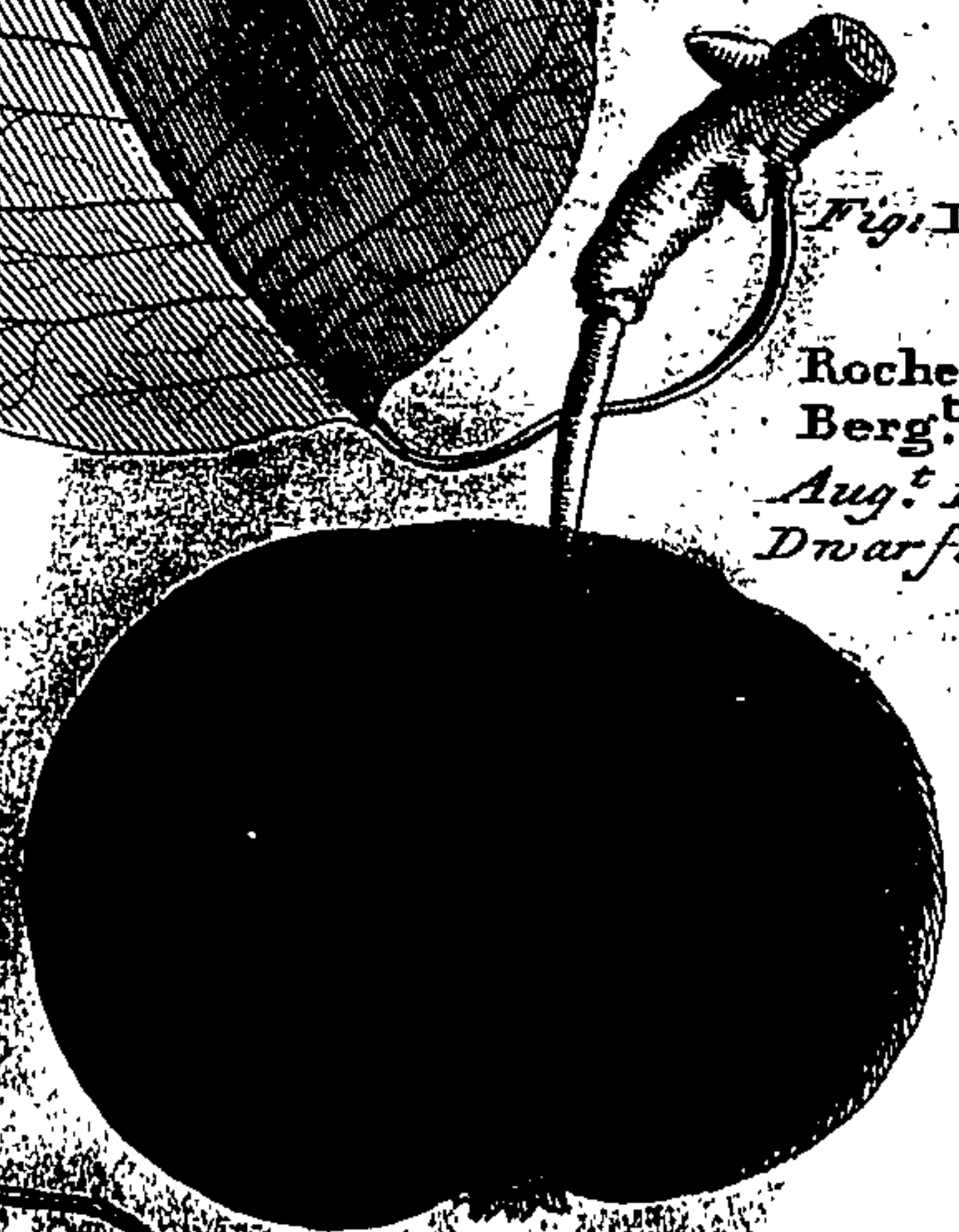
Petit
Blanquet
Aug. 5.
Standard.

Fig. III.



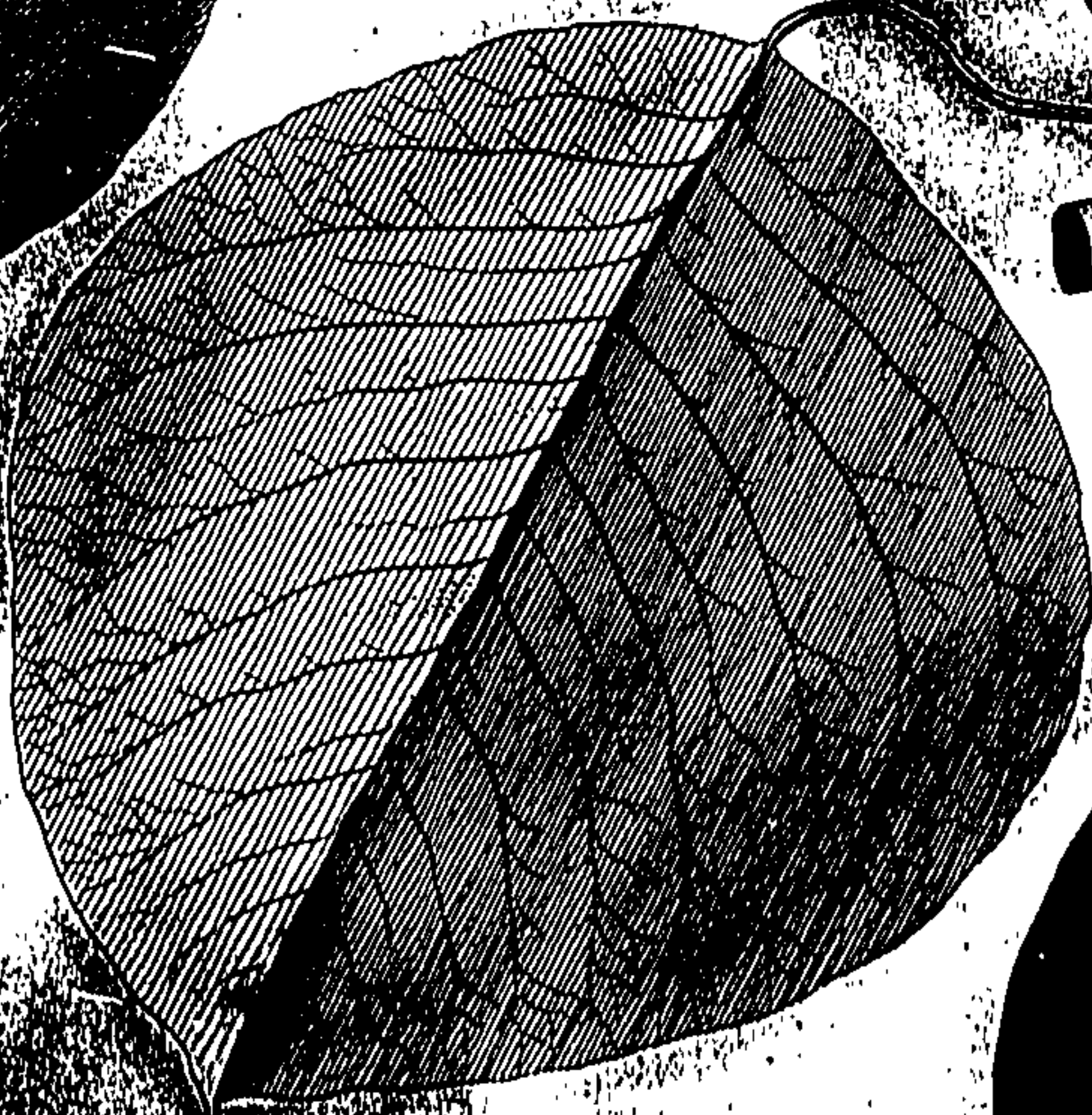
Fig. III.

Roche
Berg.
Aug. 1.
Dwarf.



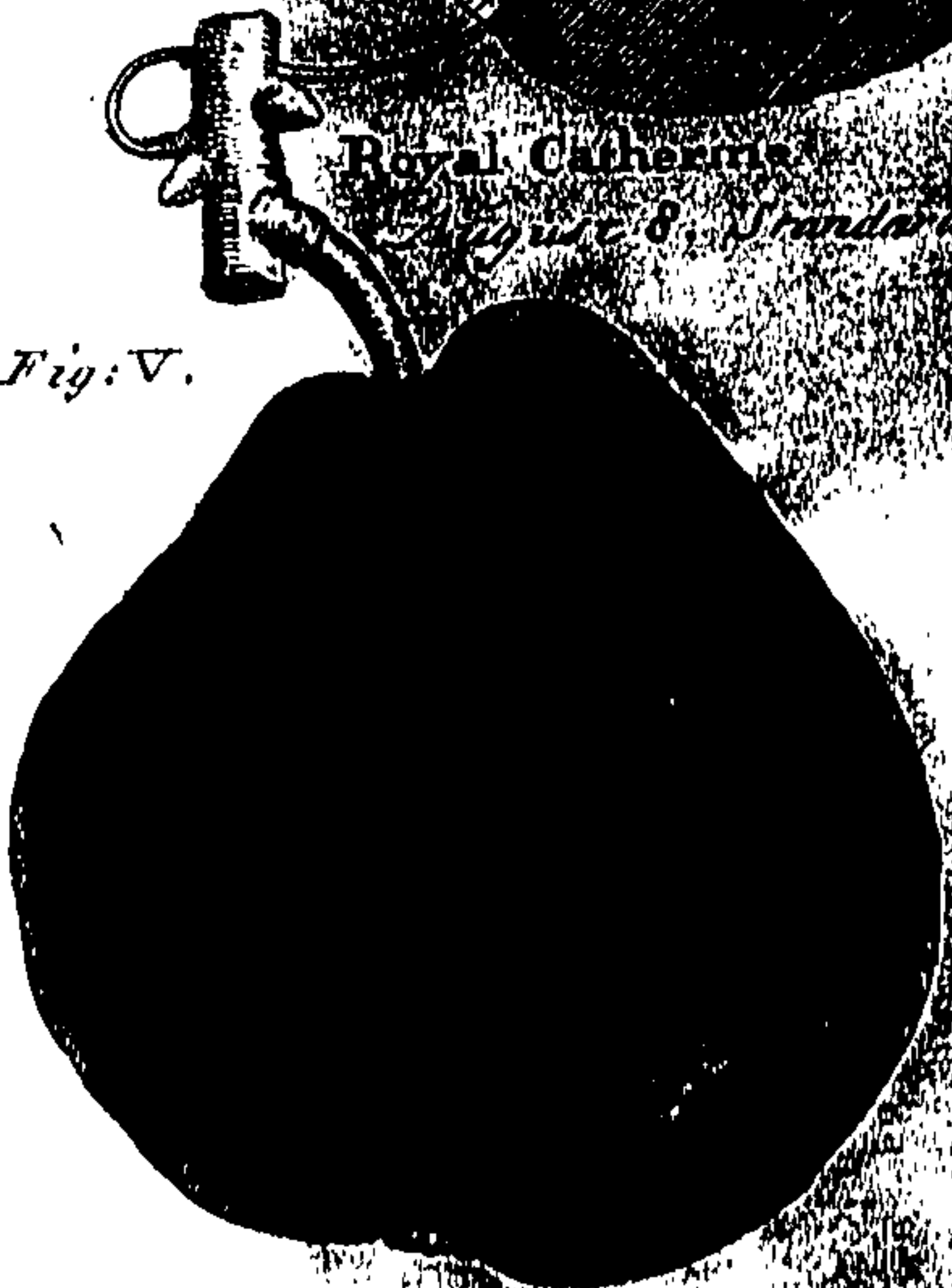
Royal Catherine
Aug. 8. Standard.

Fig. V.



St. Michael
Aug. 8. West wall

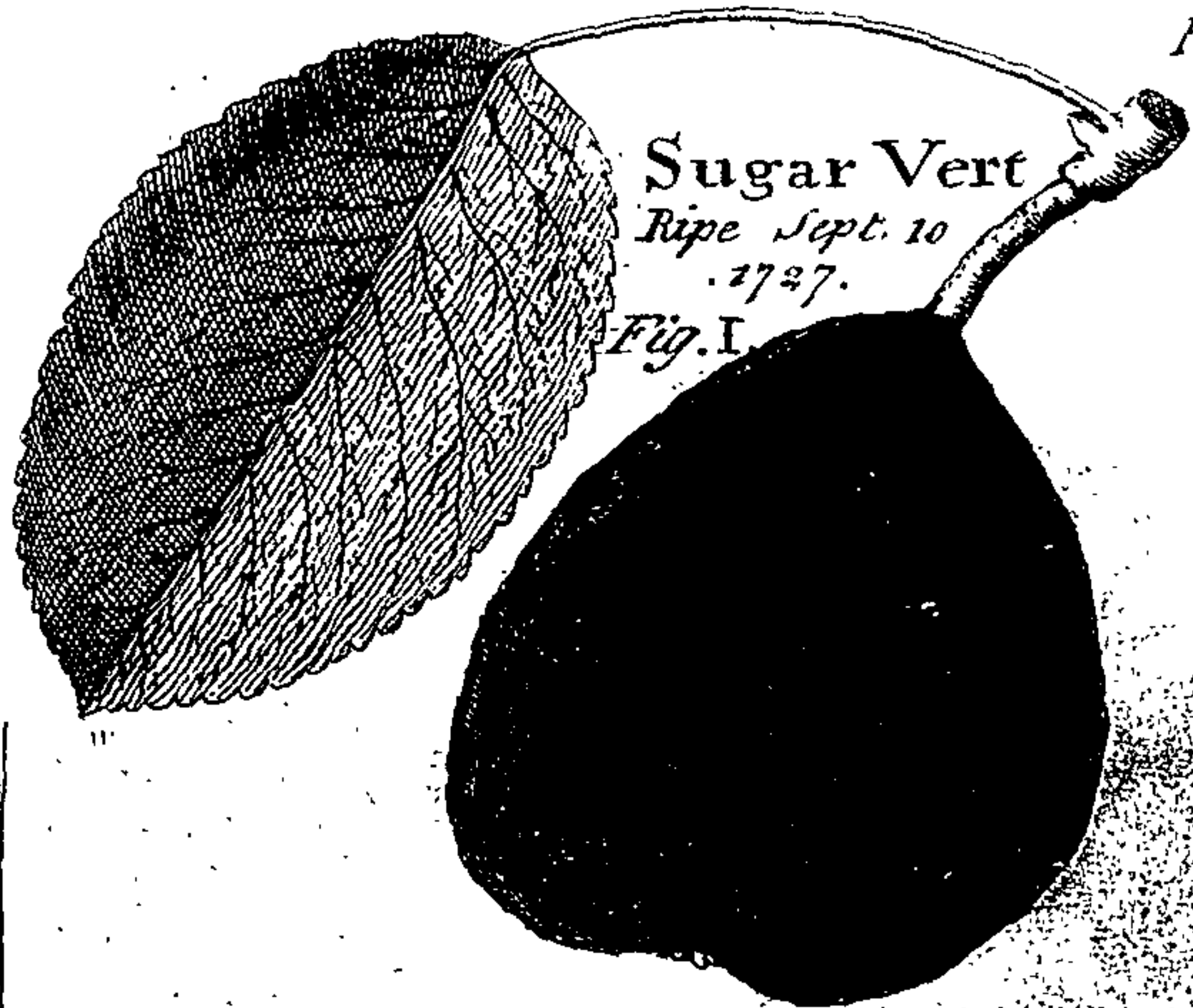
Fig. VI.



Sugar Vert

Ripe Sept. 10
1727.

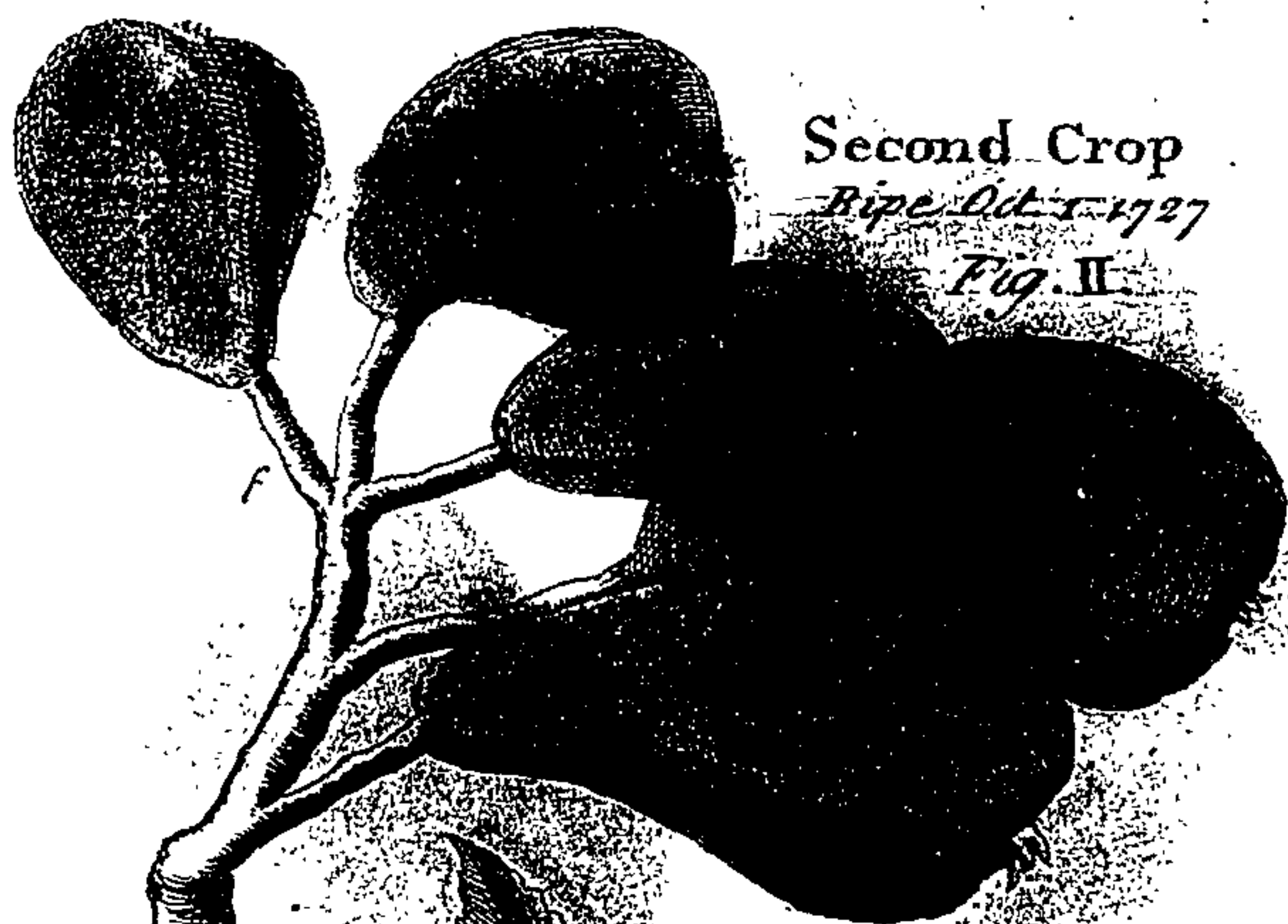
Fig. I.



Second Crop

Ripe Oct. 1 1727

Fig. II.

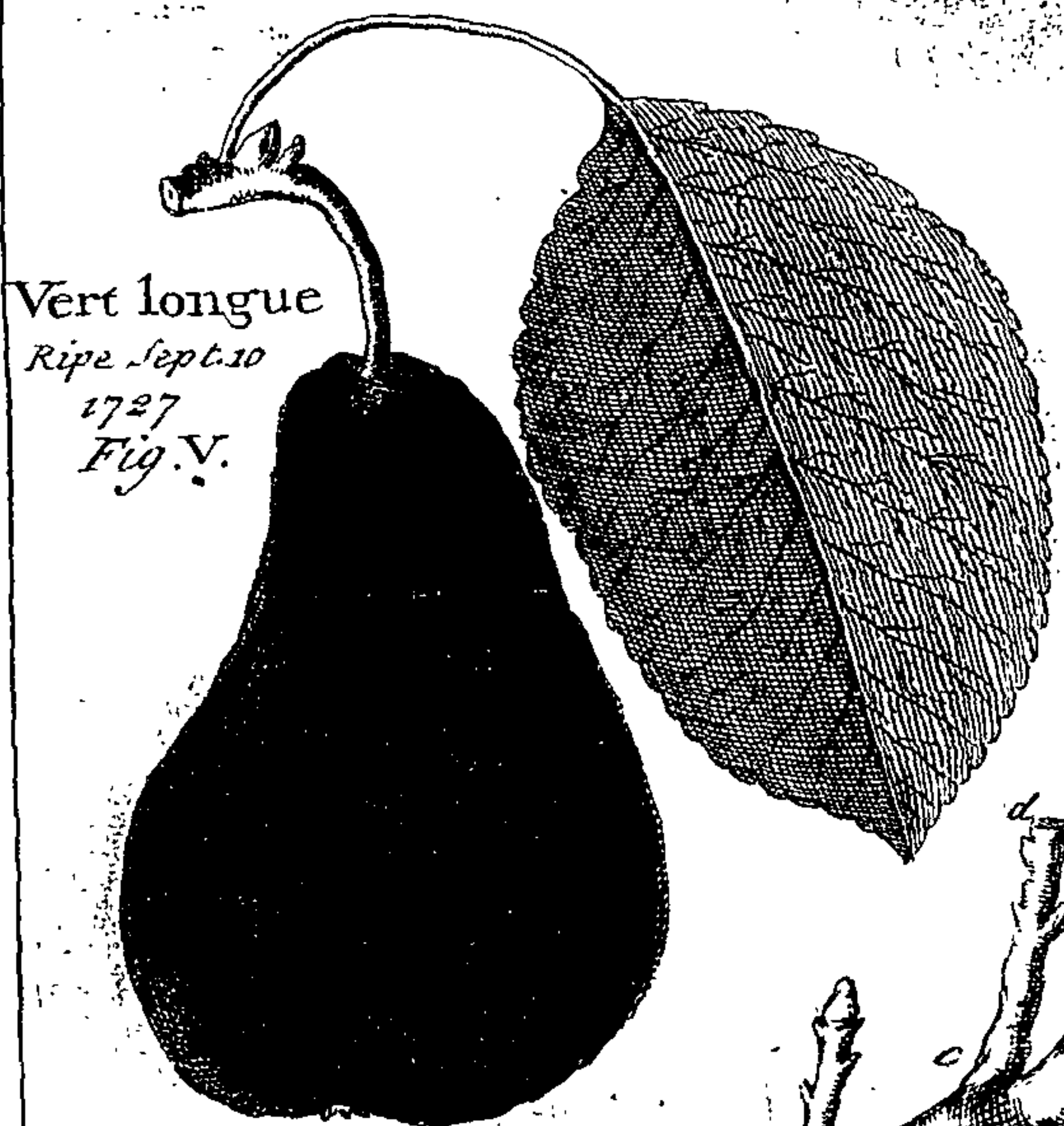


Vert longue

Ripe Sept. 10

1727

Fig. V.



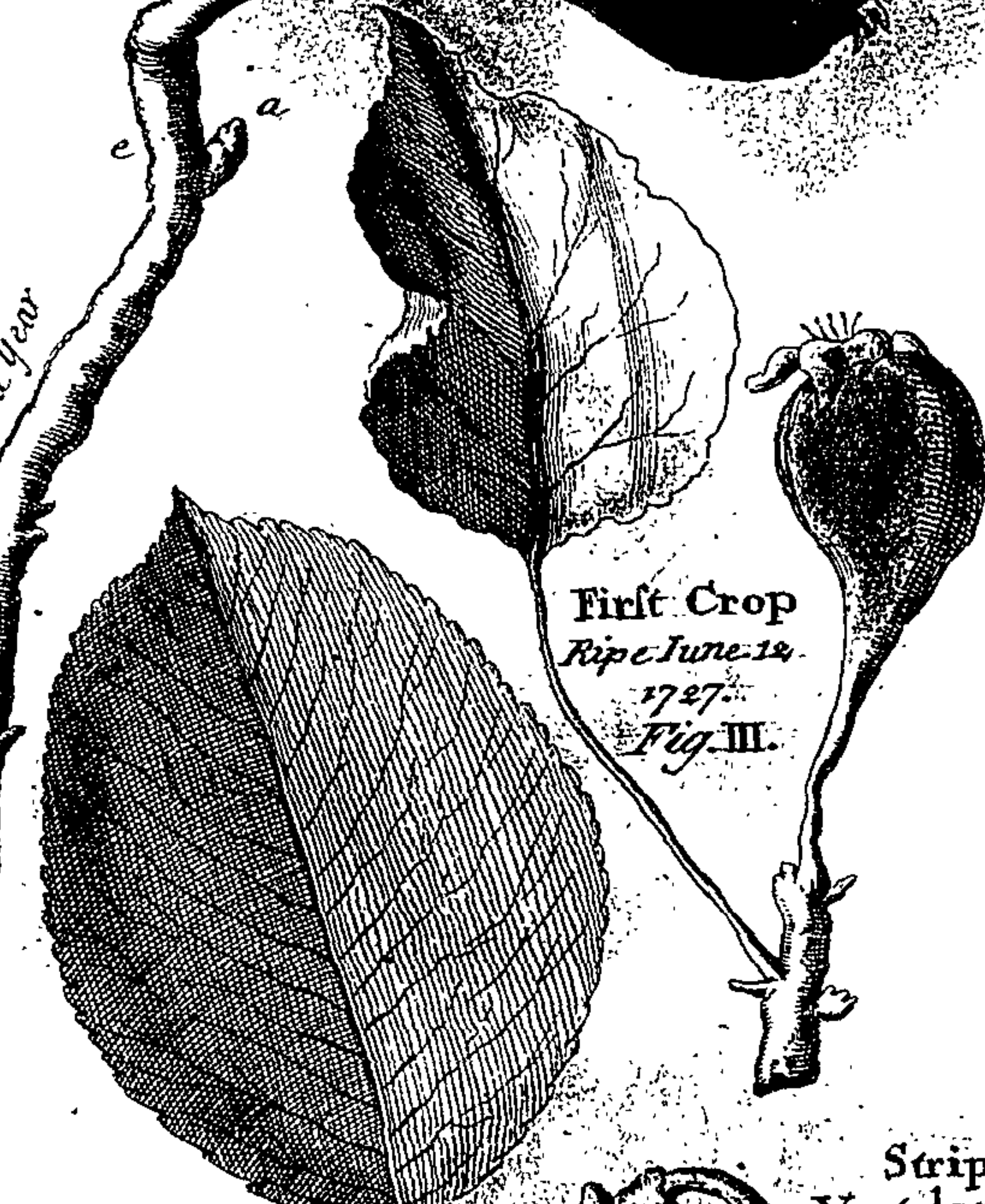
Mr Hills Pear that bears twice a year

First Crop

Ripe June 12

1727

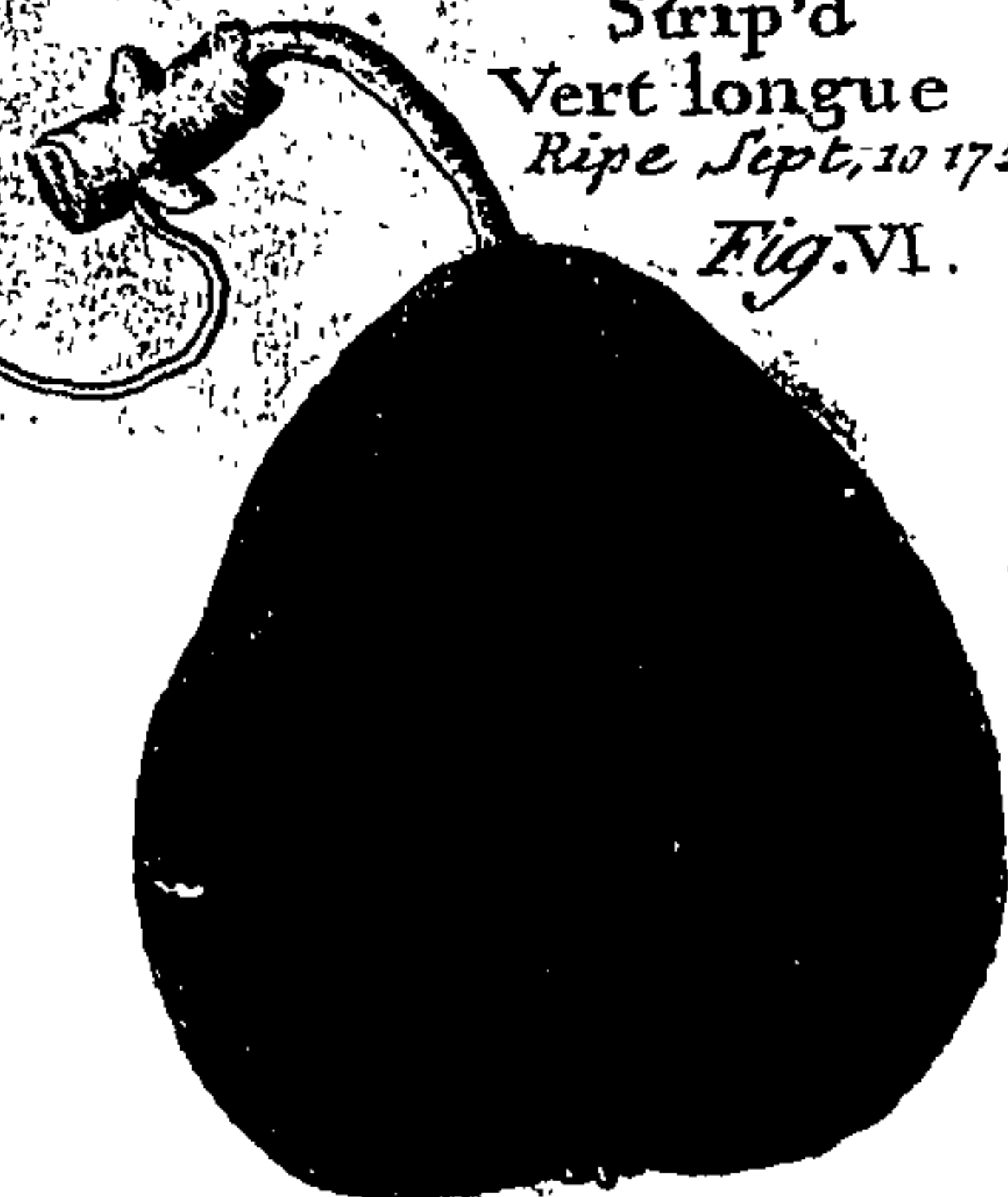
Fig. III.



Strip'd
Vert longue

Ripe Sept. 10 1727

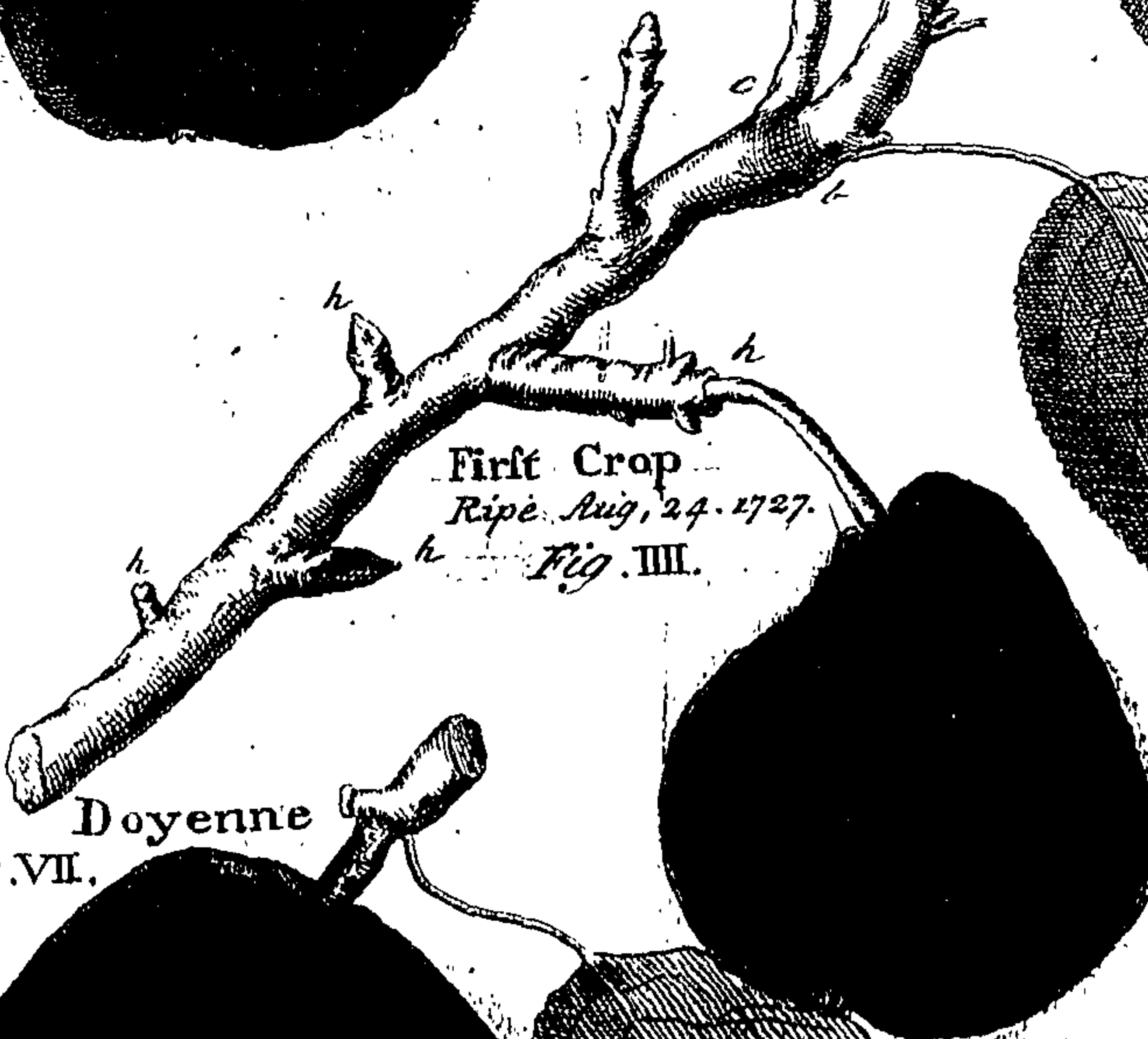
Fig. VI.



First Crop

Ripe Aug. 24 1727.

Fig. III.



Doyenne

Fig. VII.

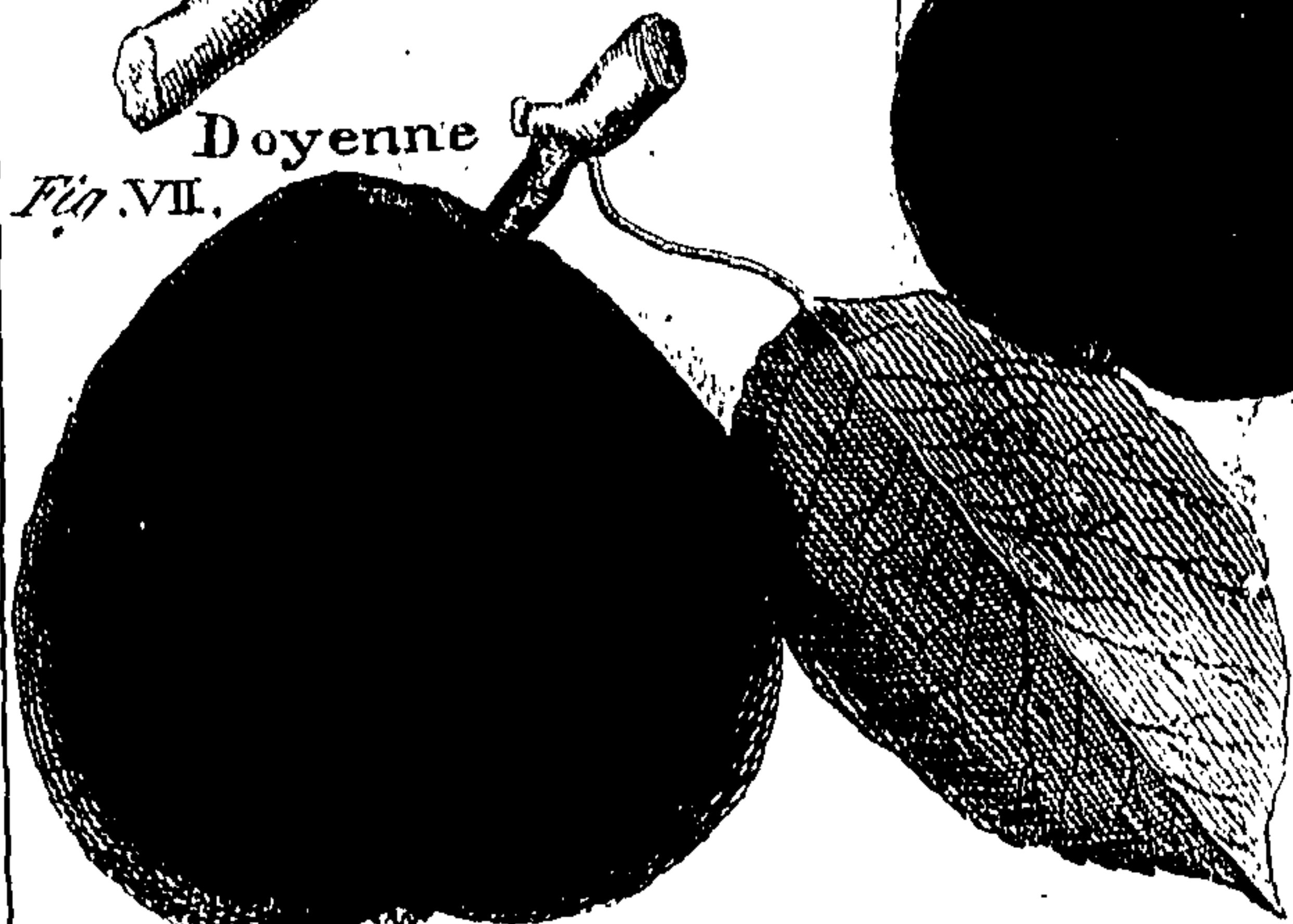


Fig. VIII.

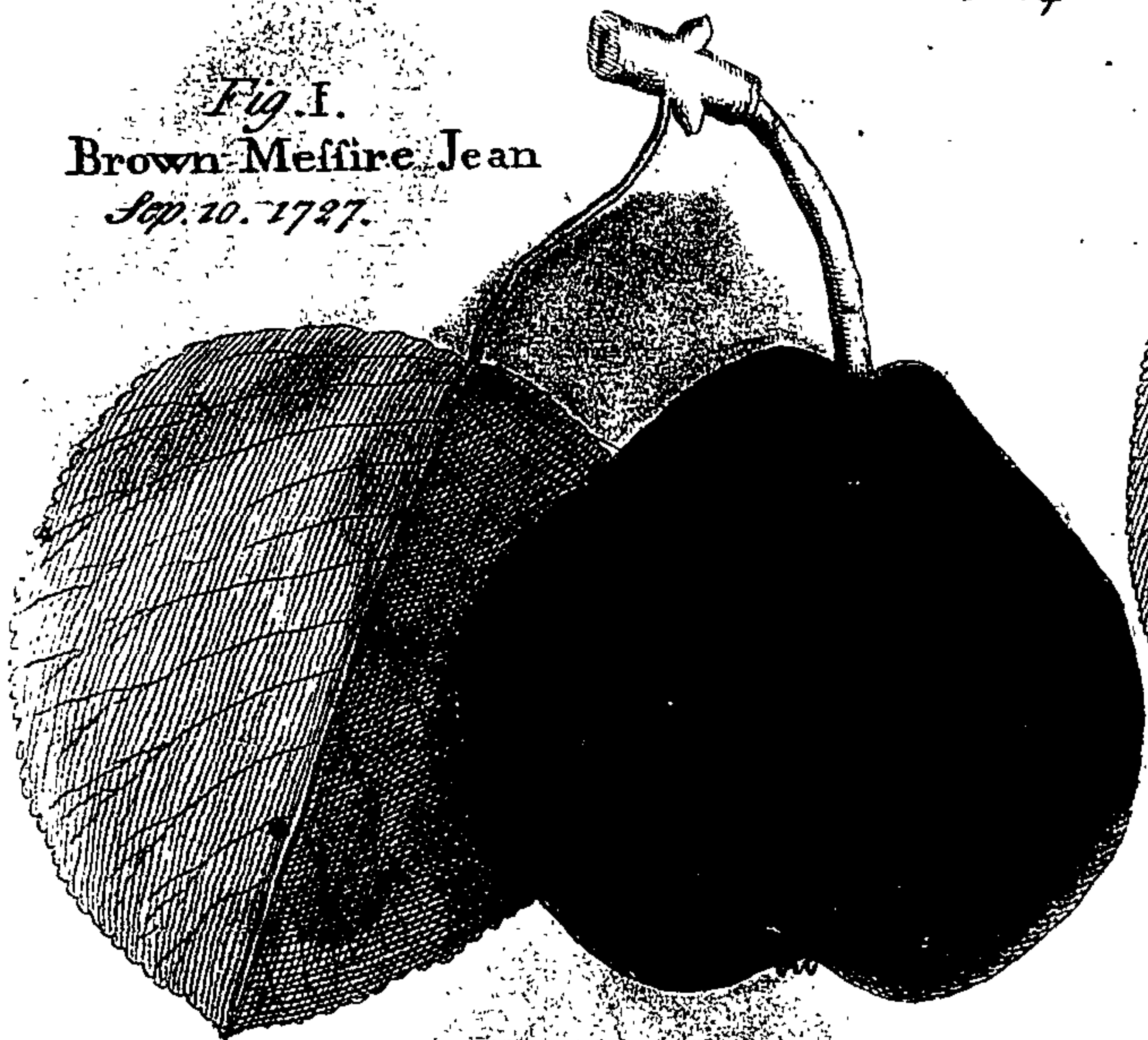
Swiss Burrainot

Ripe Oct. 10

1727.



Fig. I.
Brown-Messire Jean
Sep. 10. 1727.



Petit Ruffelet
Fig. II.

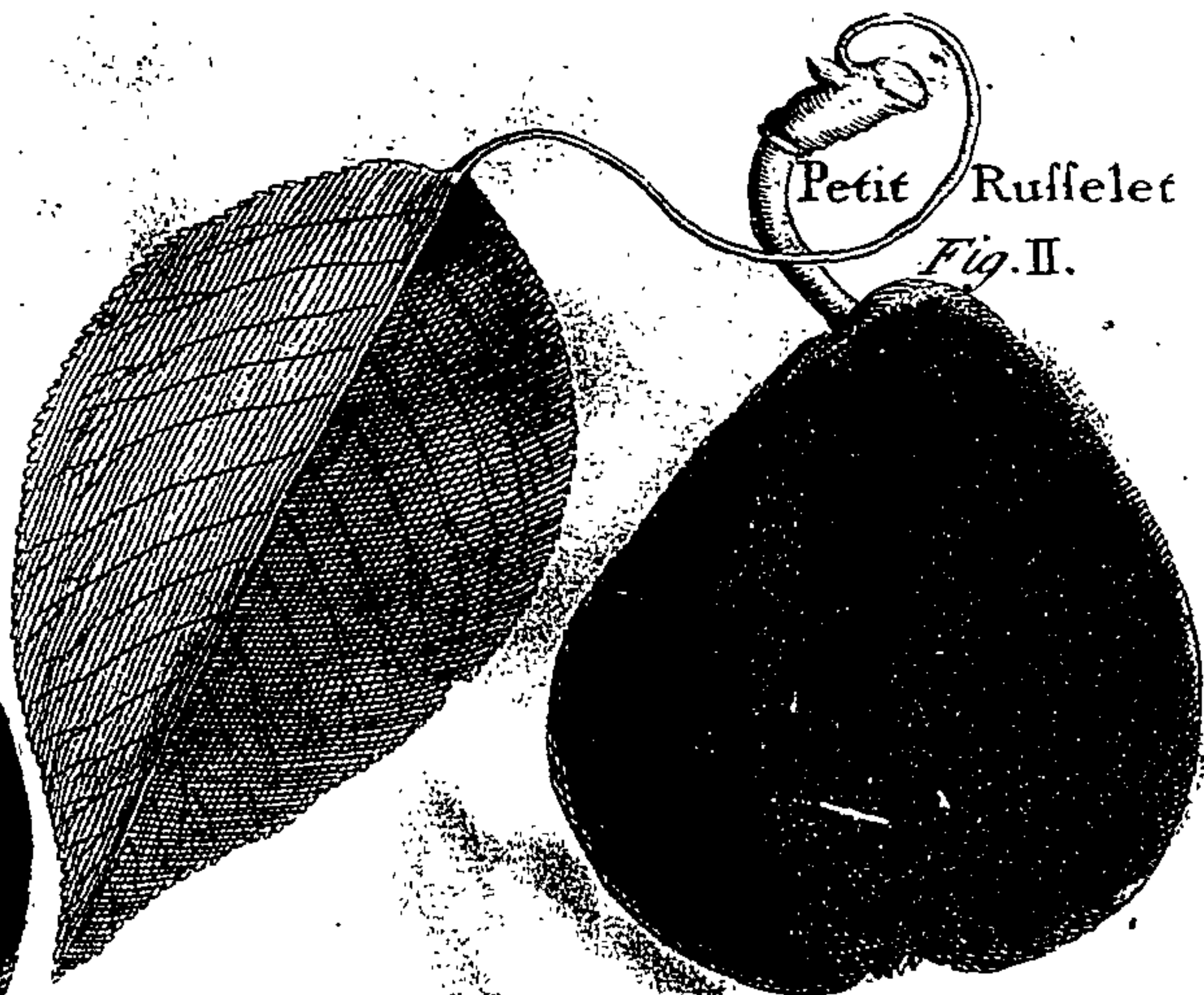


Fig. III.
Buree de Roy
Sep. 10. 1727.

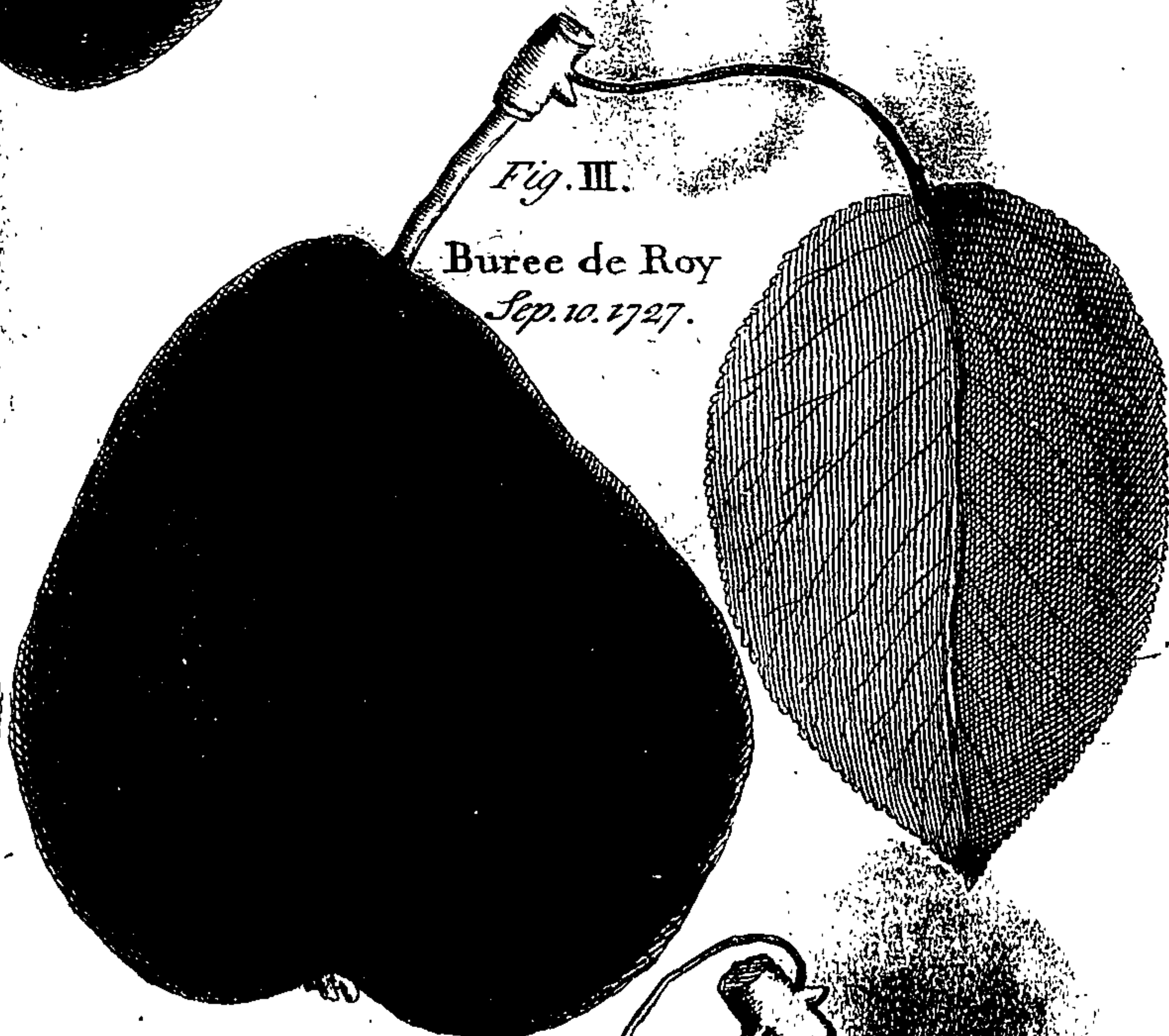


Fig. III.
Swans Egg
Sep. 20. 1727.

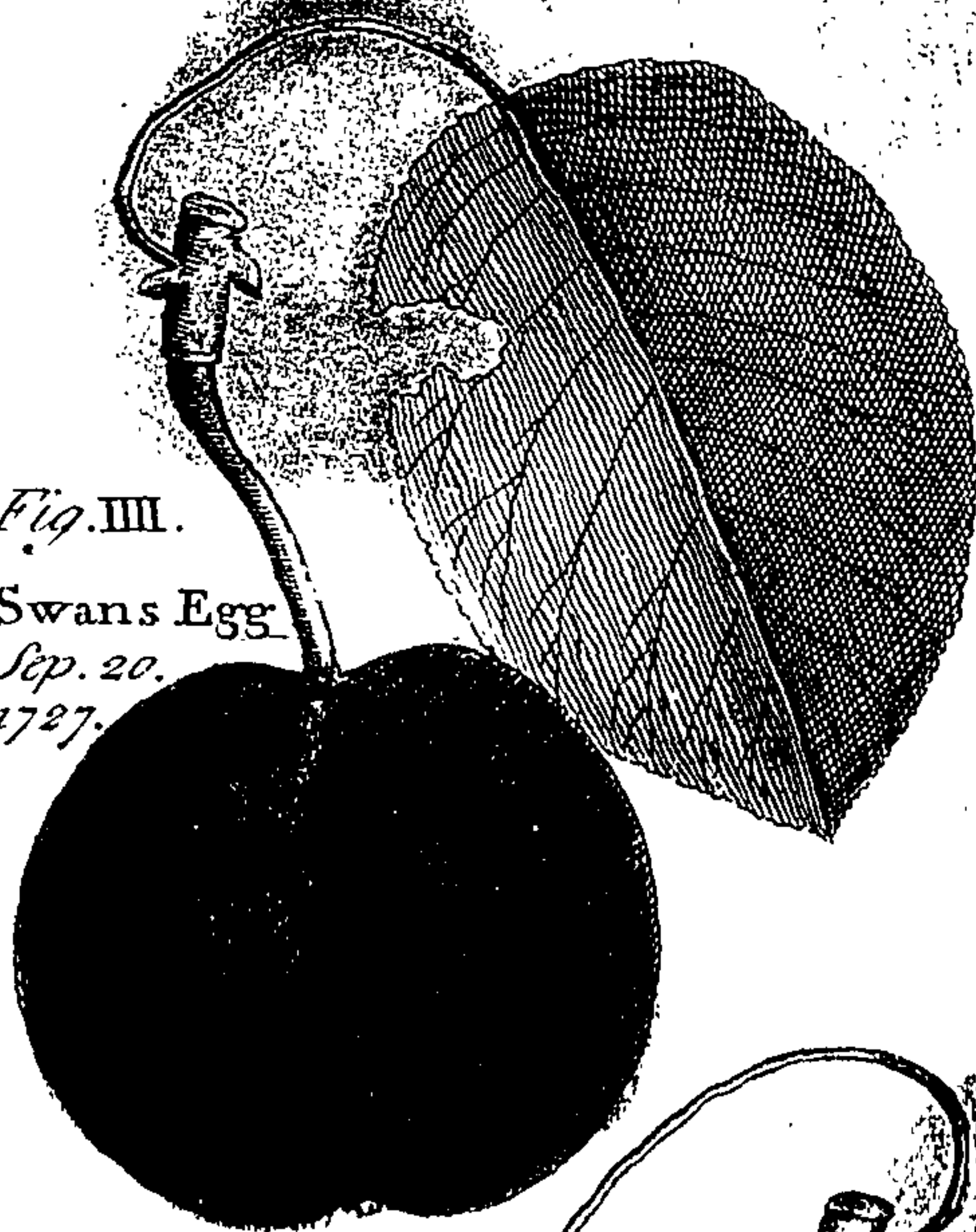


Fig. VI.
Red Buree
Sep. 10. 1727.



Fig. V.
Salviati
Sep. 20. 1727.

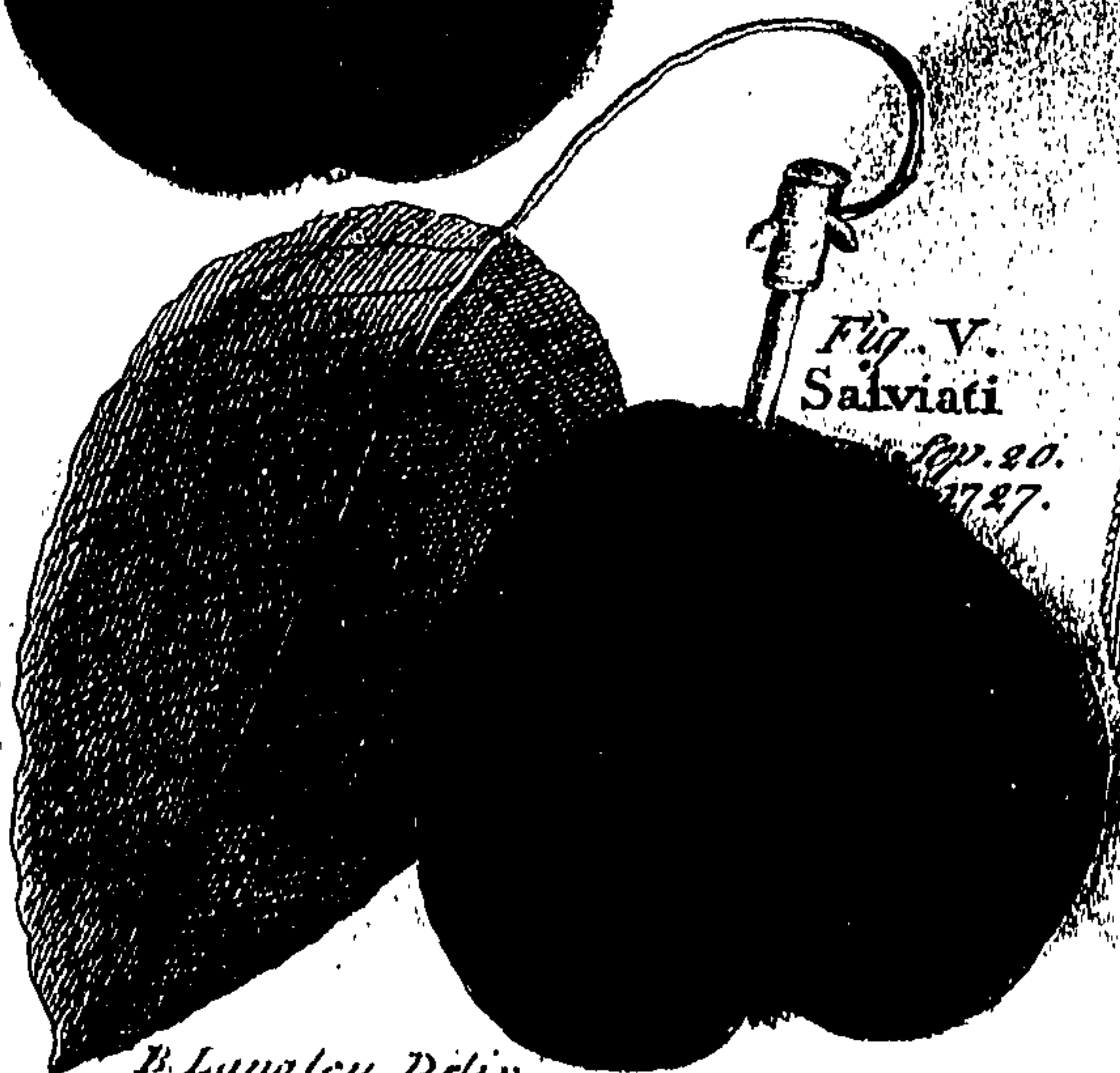
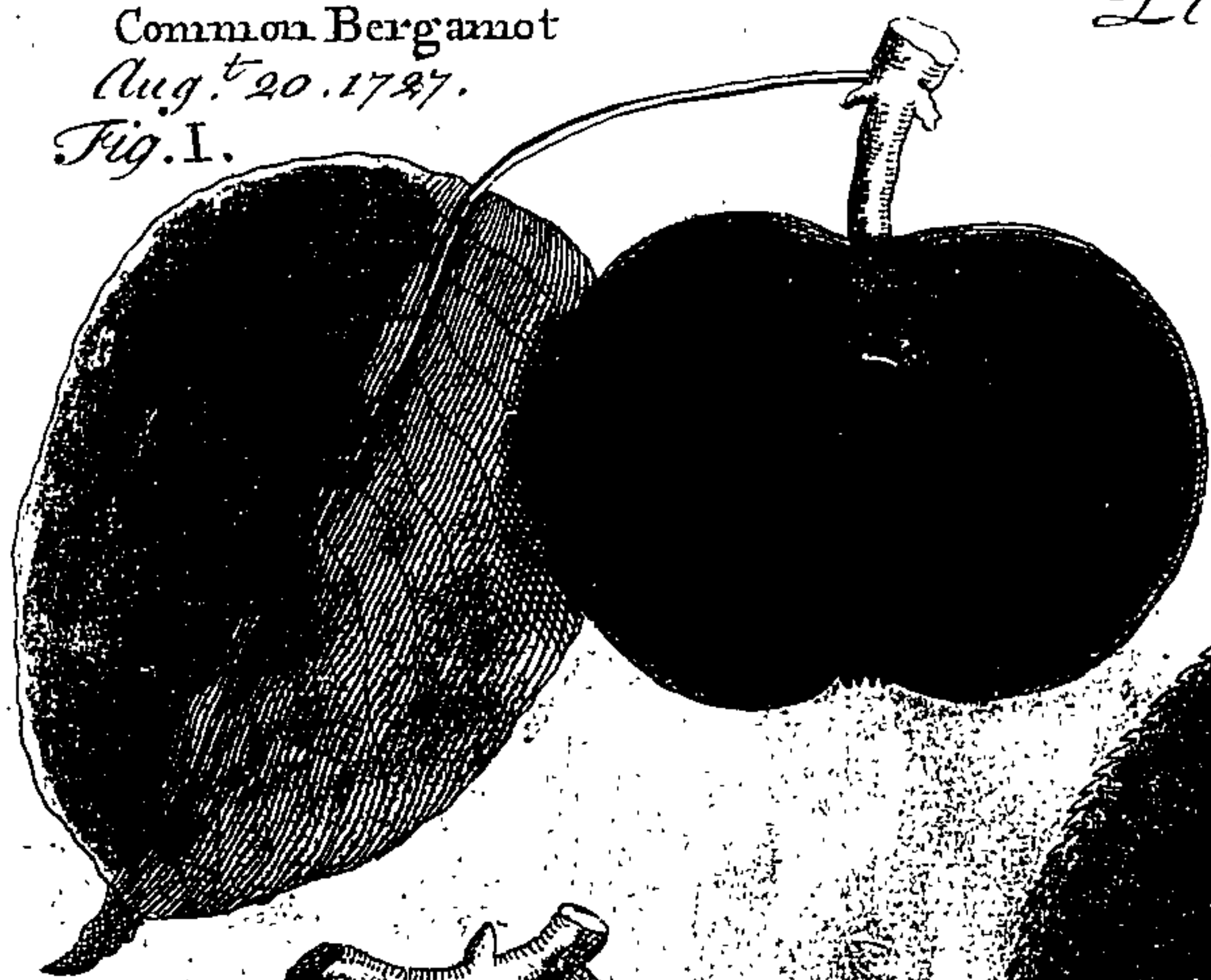
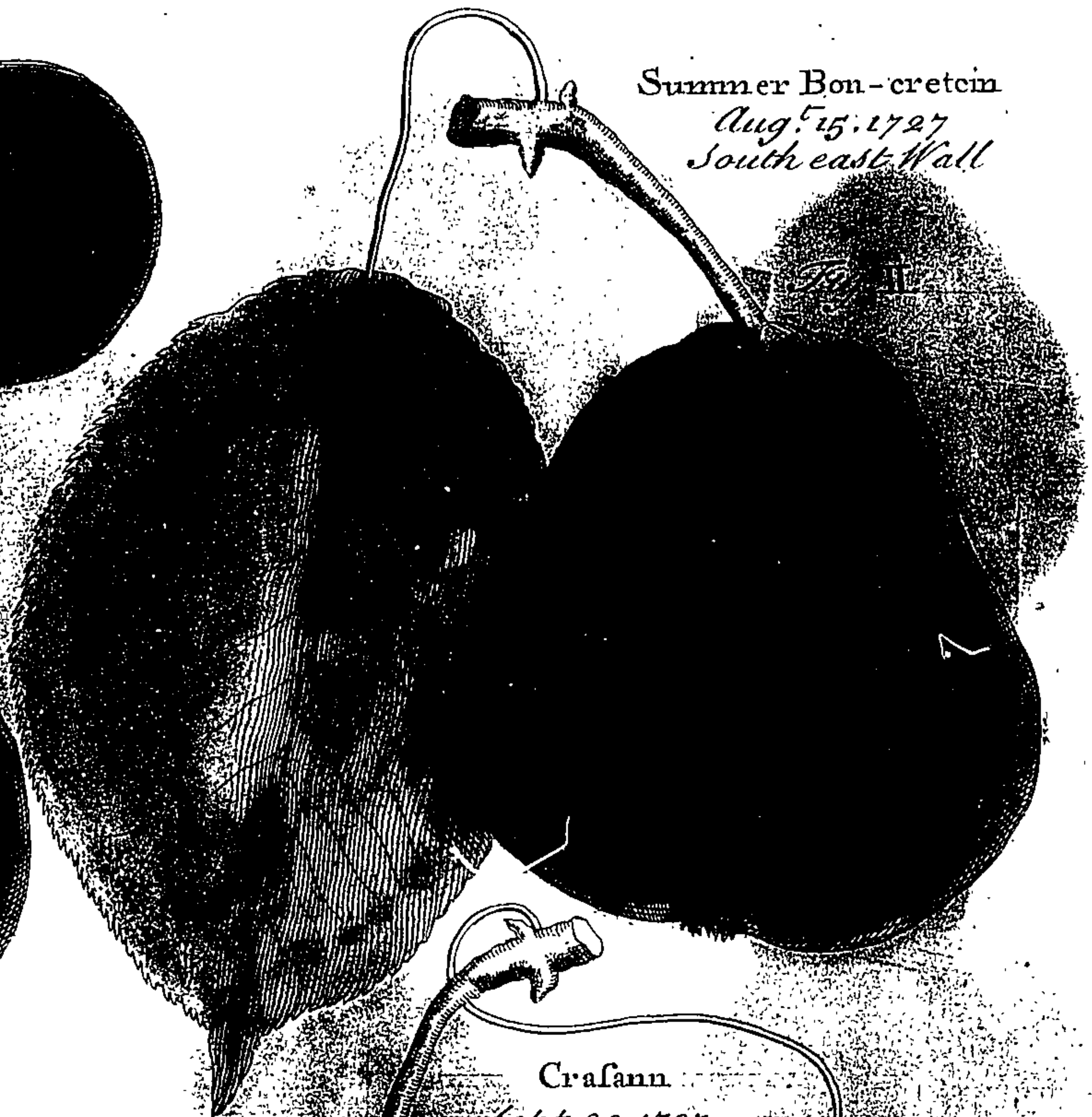


Plate LXV

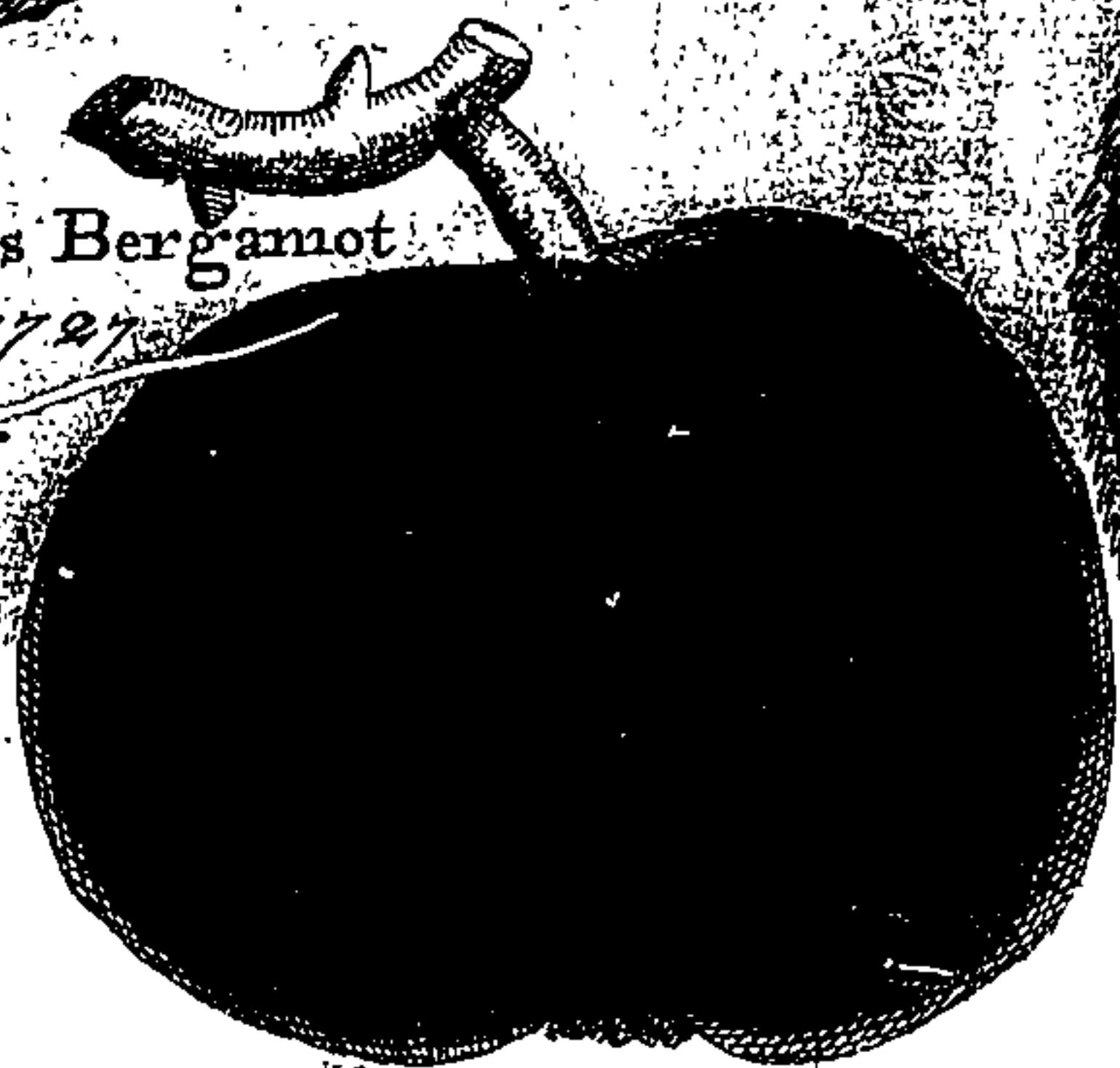
Common Bergamot
Aug. 20. 1727.
Fig. I.



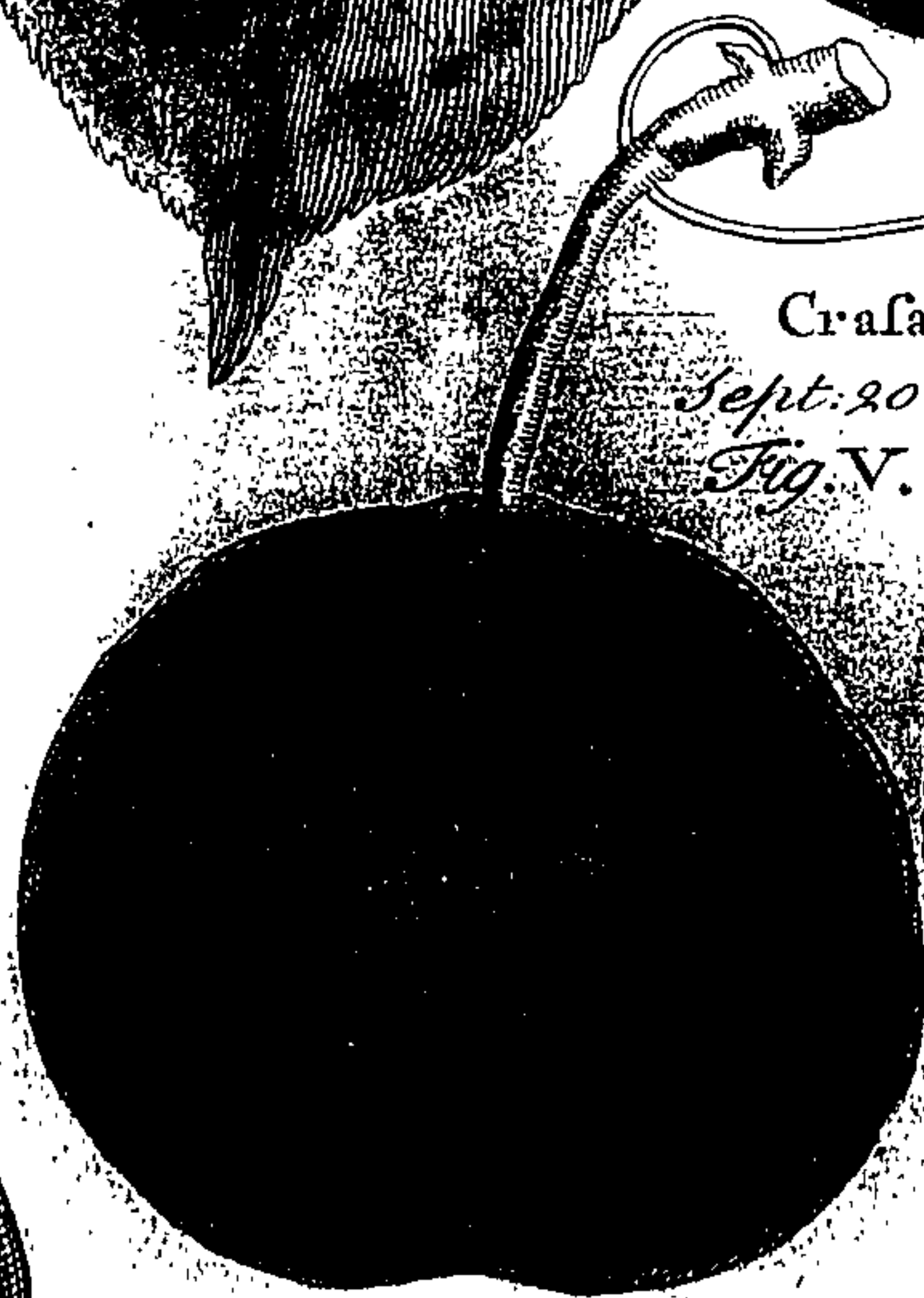
Summer Bon-cretien
Aug. 15. 1727
South east Wall



Hamdens Bergamot
Aug. 2. 1727.
Fig. II.



Craſann
Sept. 20. 1727.
Fig. V.



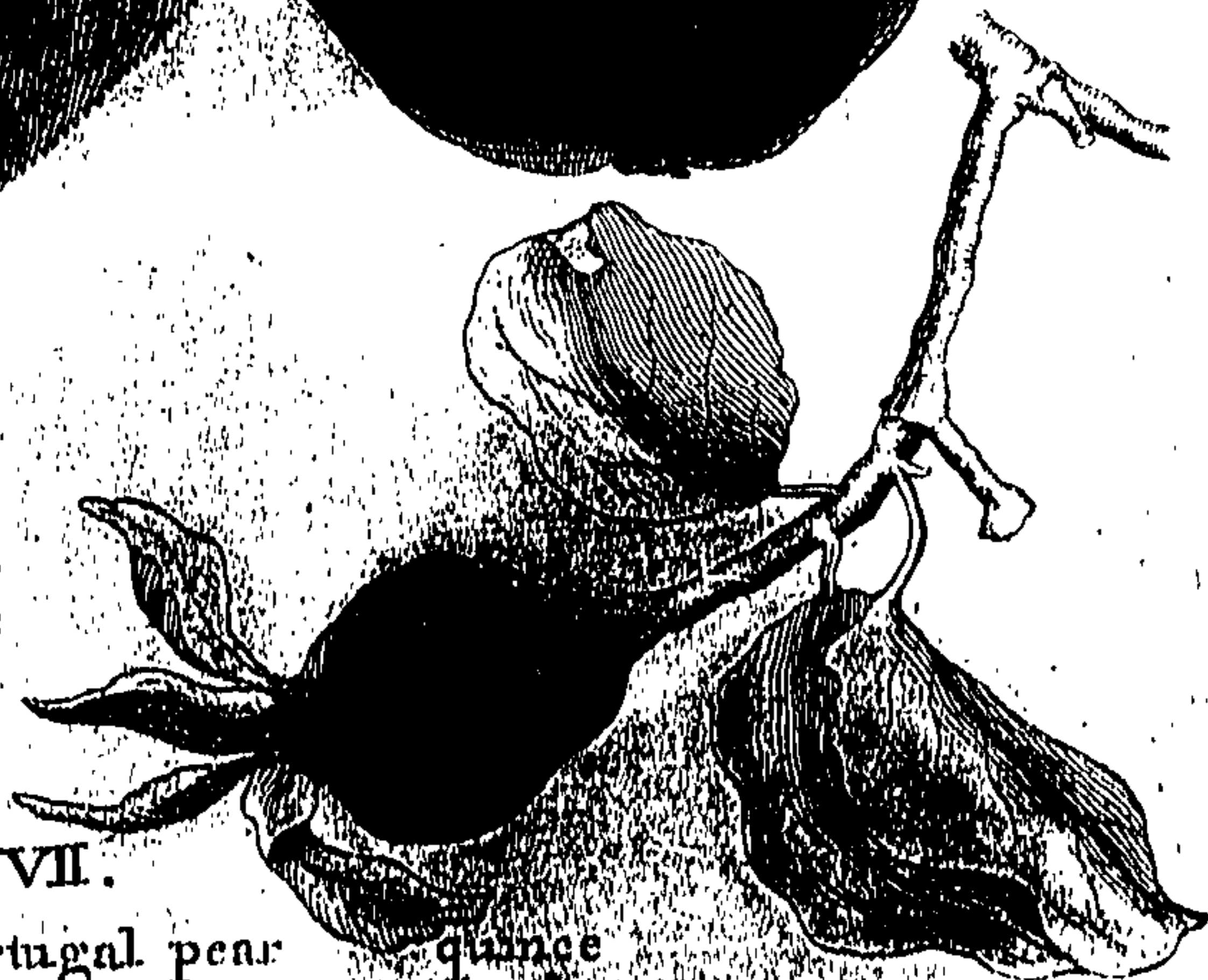
Groos Ruffellet
Aug. 24. 1727
South east Wall
Fig. III.



Portugal pear quince
in Bloſſom
27. April. 1727
Fig. VI.



Fig. VII.
Portugal pear quince
ſet for growth May 10. 1727
B. Langley. Delin.



S^t. Germaine.
Oct. 10. South wall.

Fig: II.



White
Monsieur Jean.
Sept. 20. Dwarf.

Fig: I.

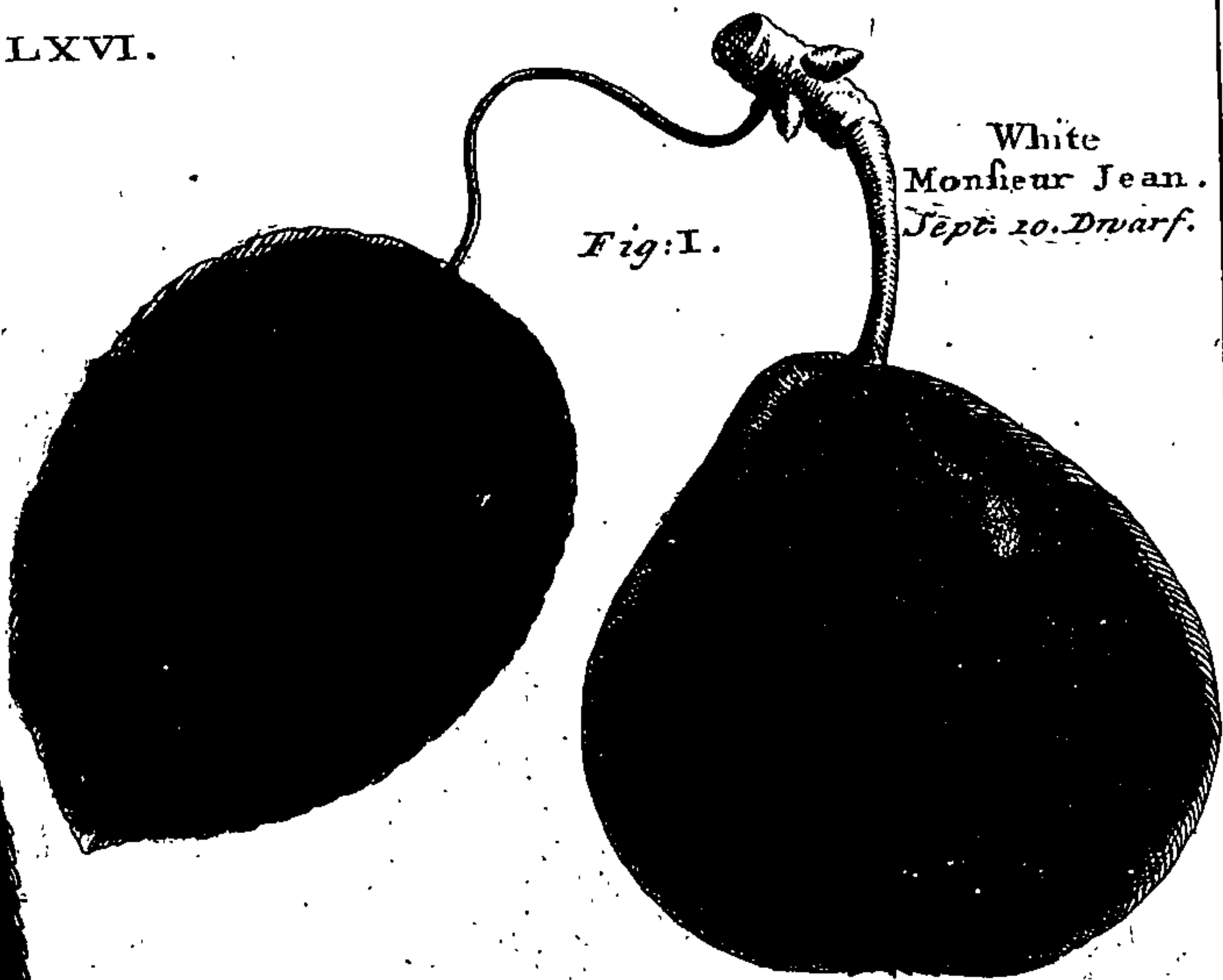
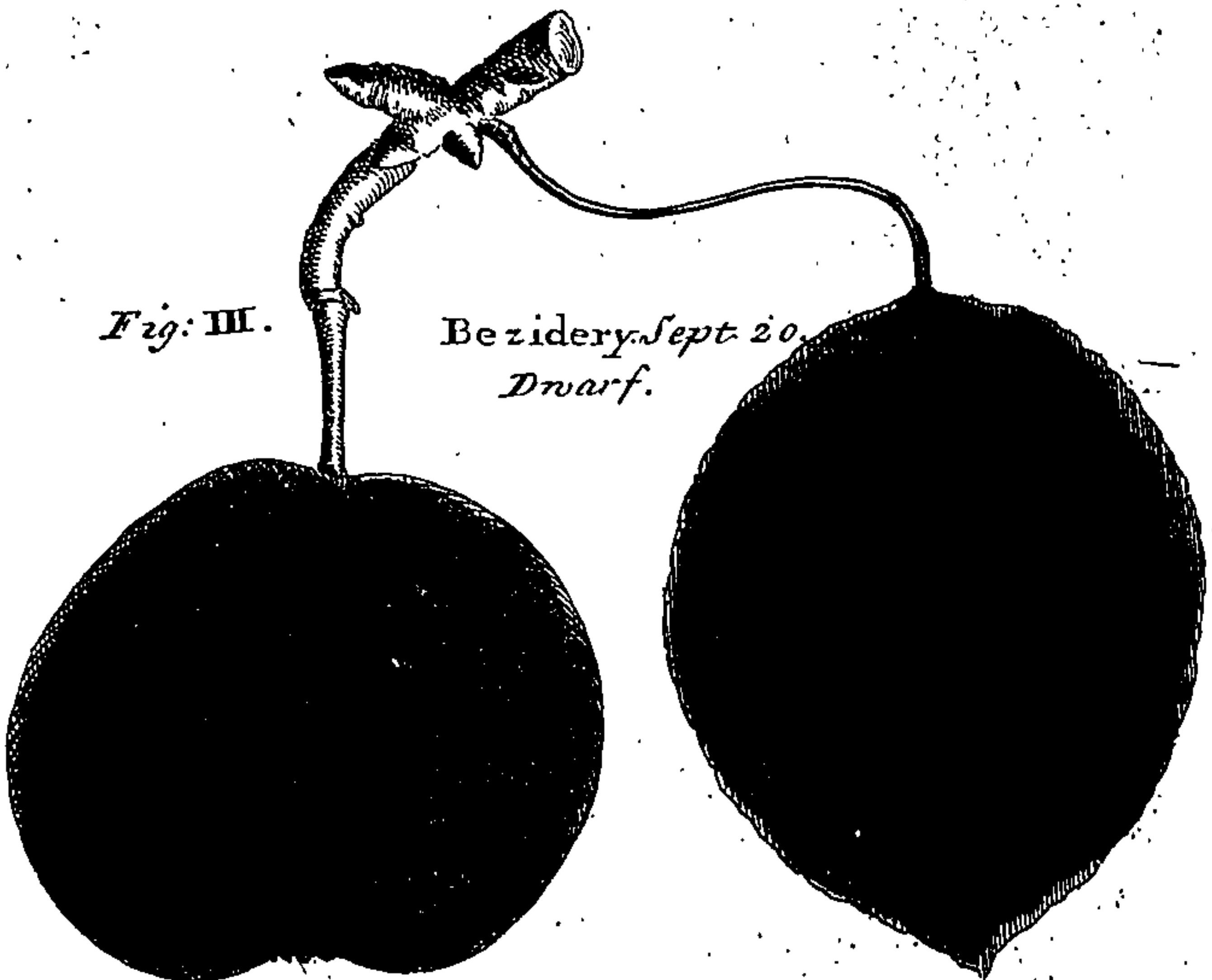


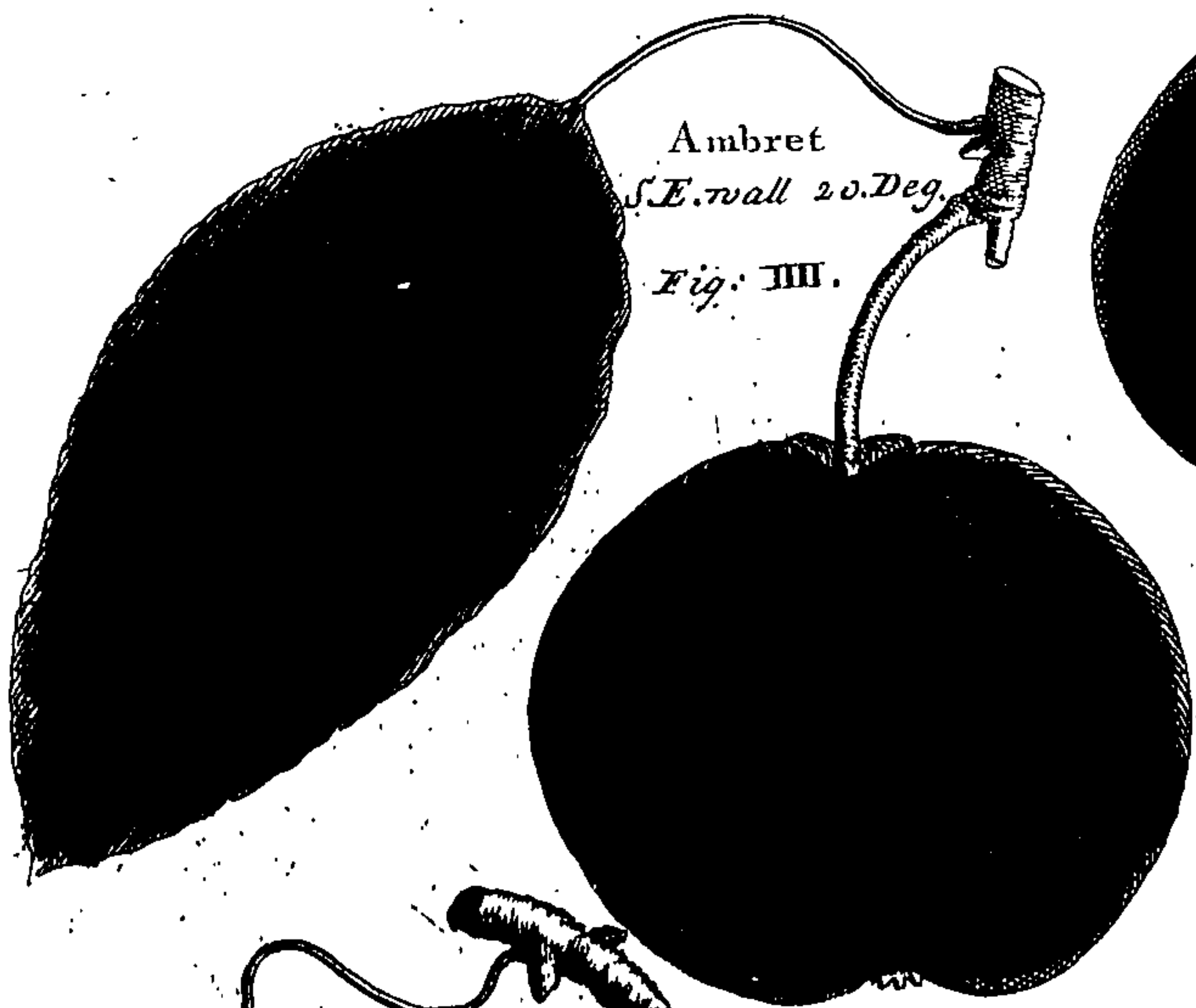
Fig: III.

Bezidery. Sept 20.
Dwarf.



Ambret
S.E. wall 20. Deg.

Fig: III.



Satin. pear.
Sept. 20.
Espace.

Fig: VI.



Bugy
Berg.
West wall.
Sept. 20.

Fig: V.

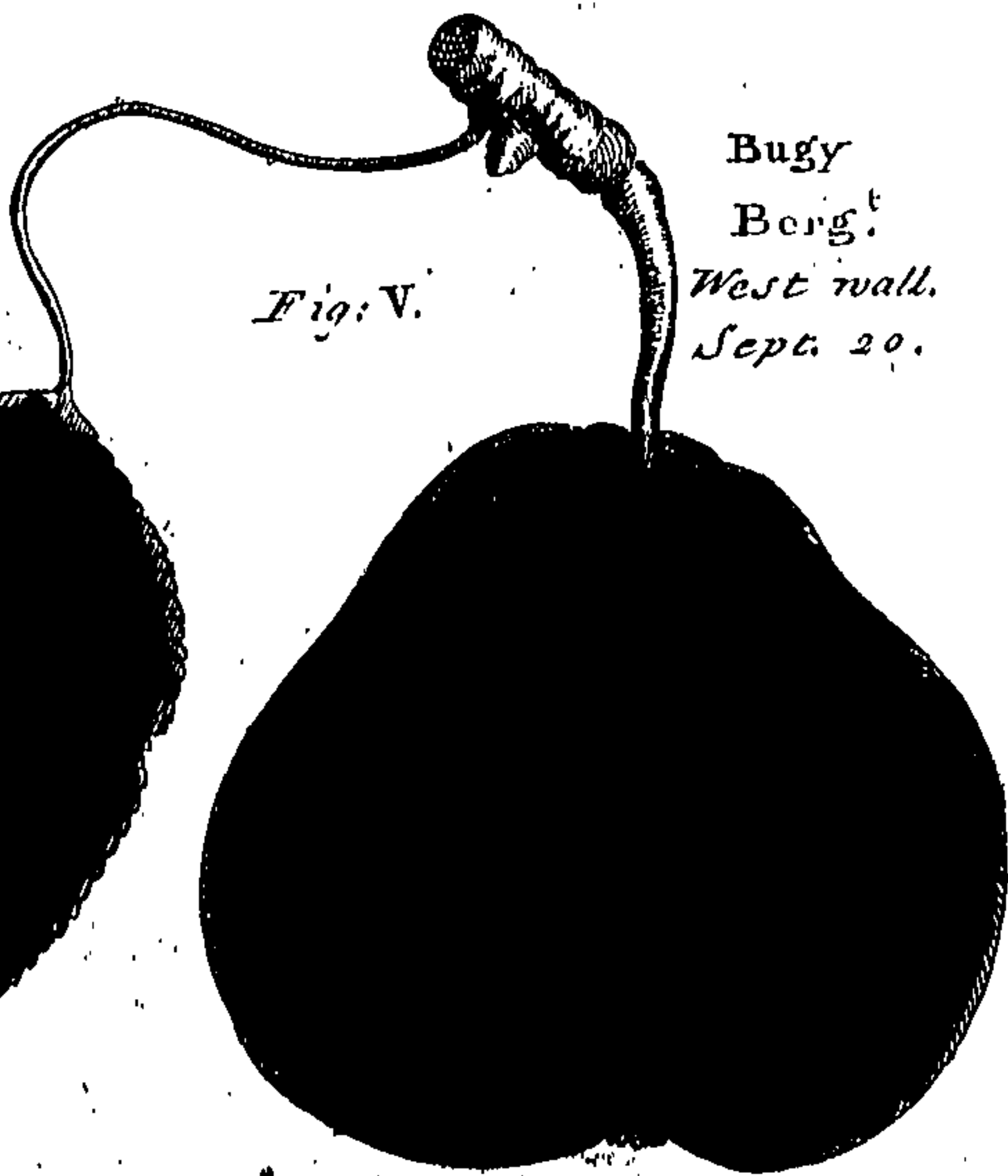


Fig: I.

Winter
Bergamot.
South wall Sept. 20.

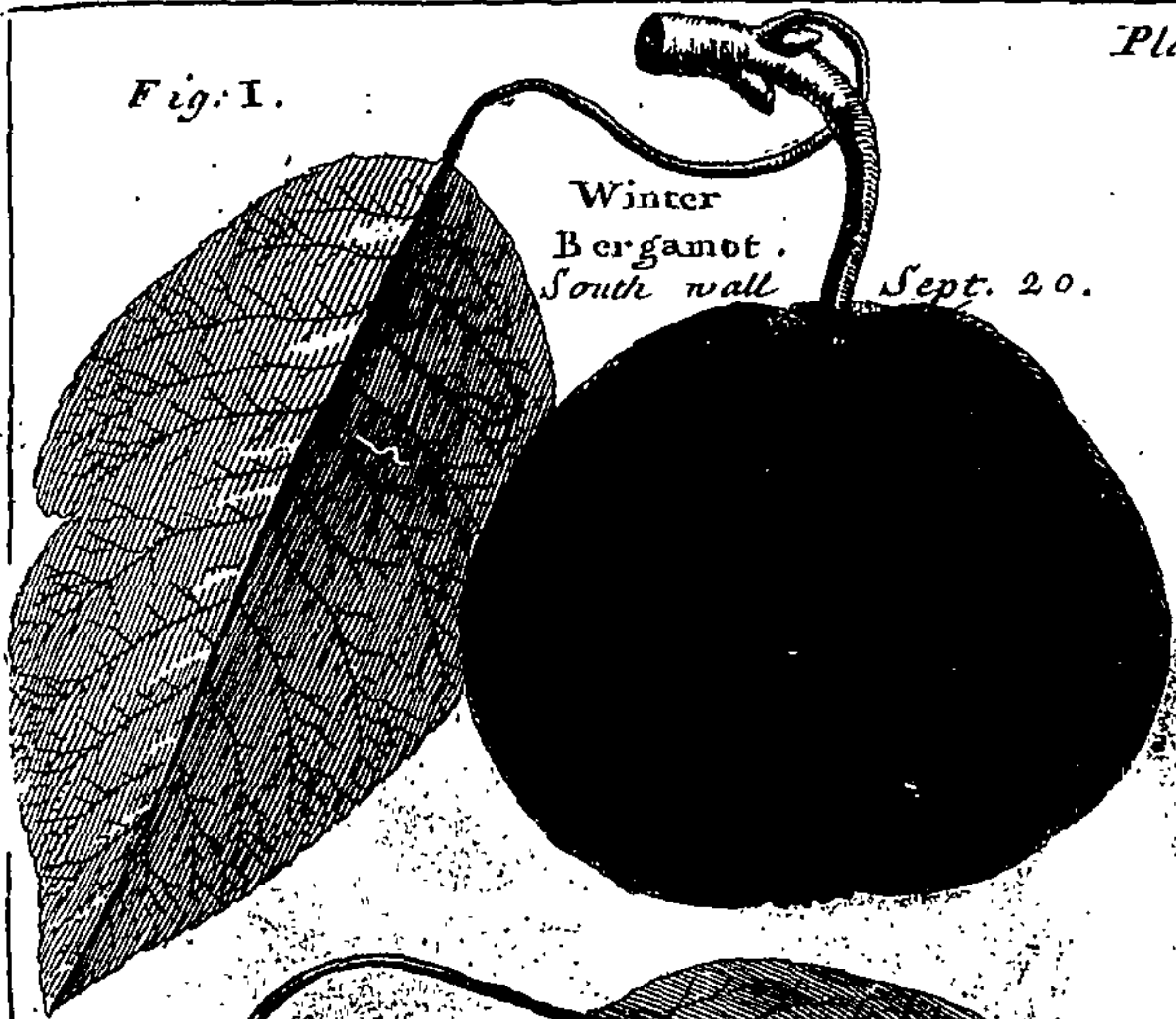


Fig: II.

Virgoulee.
Sept. 20. South wall.

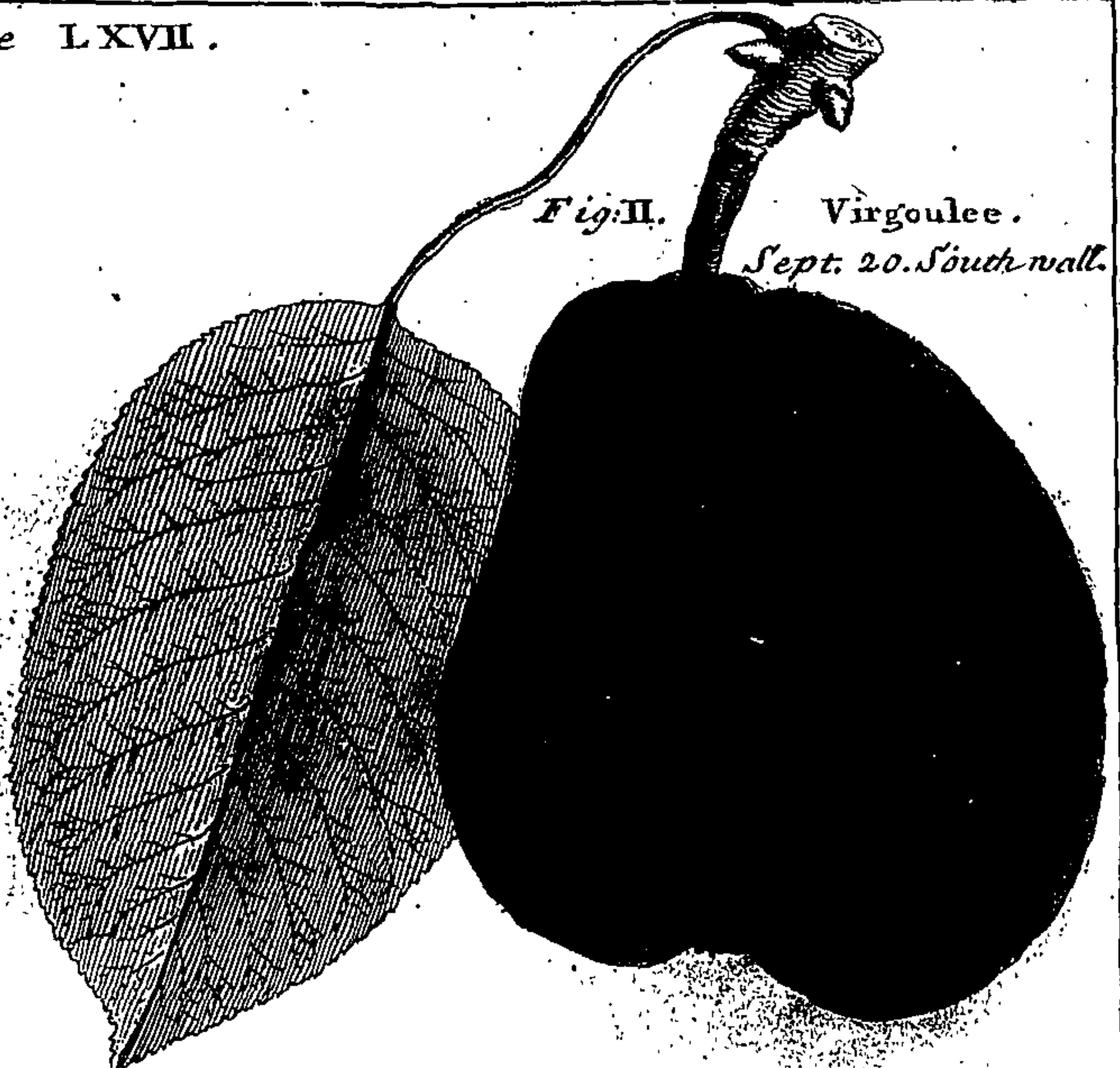


Fig: III.

Colmar.
S. E. wall.
Sept. 20.

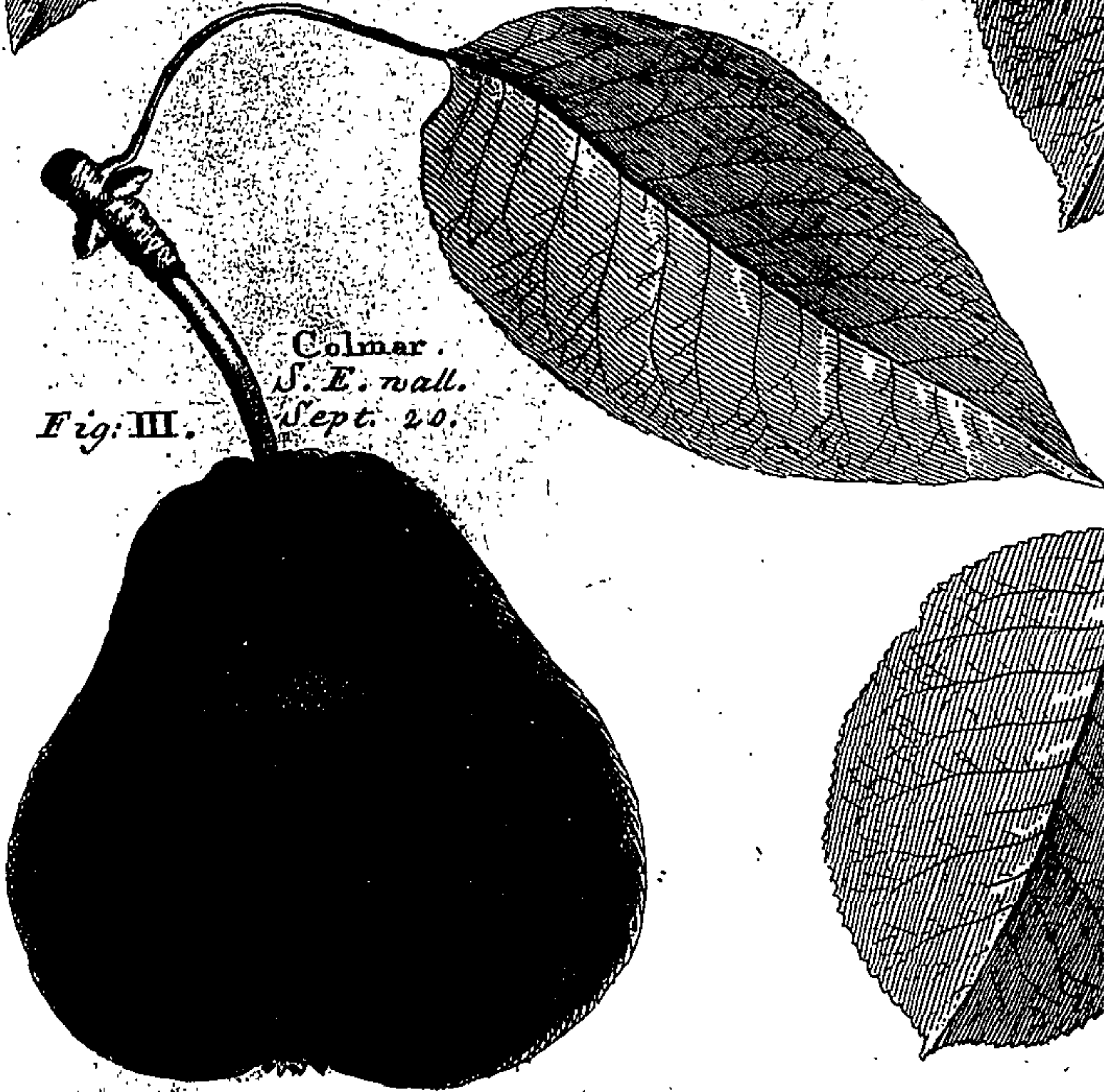


Fig: III.

Royal d'hyver
East wall
Sept. 30

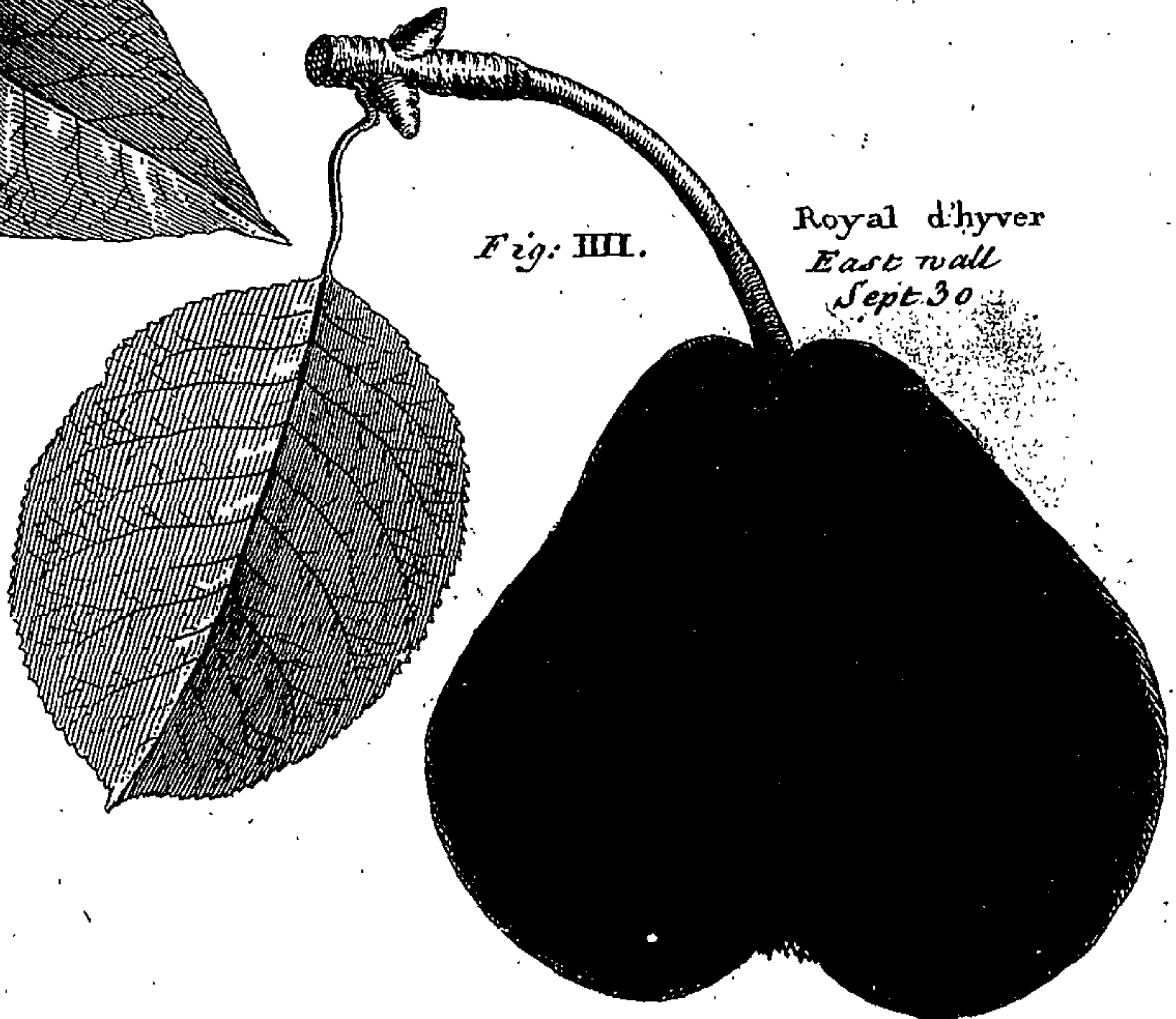
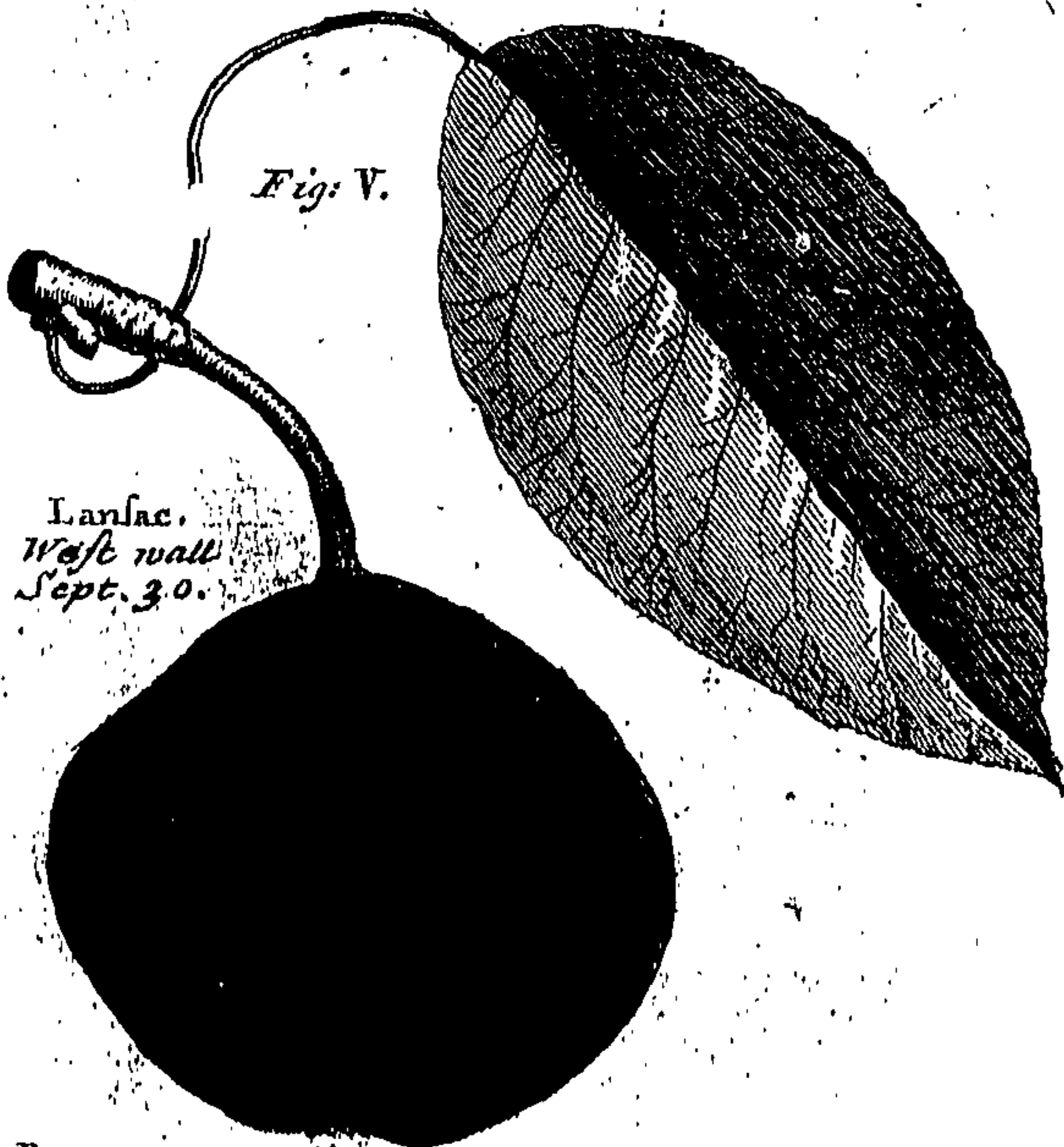


Fig: V.

Lansac.
West wall
Sept. 30.



Winter Thorn.
West wall
Sept. 30.

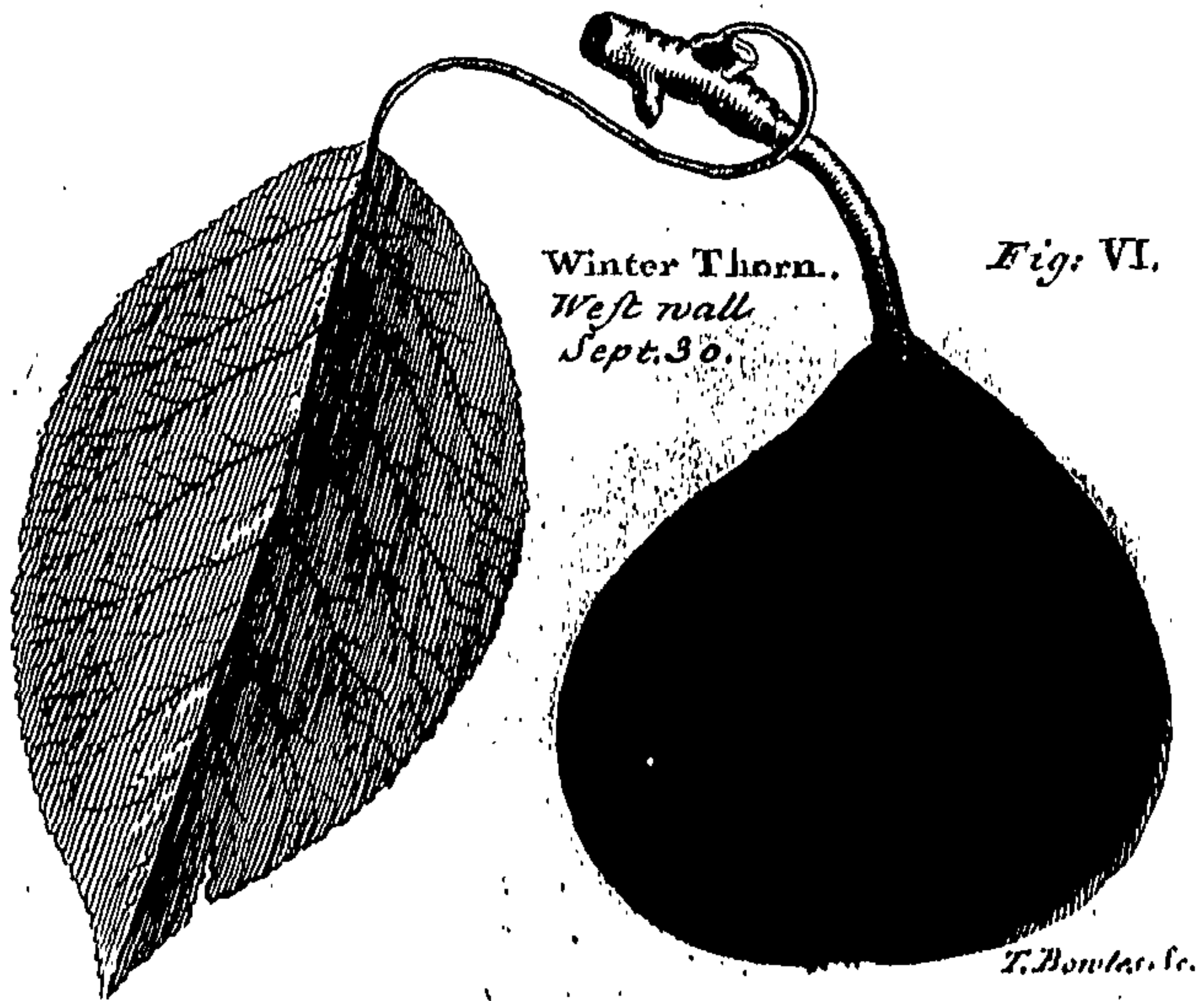


Fig: VI.

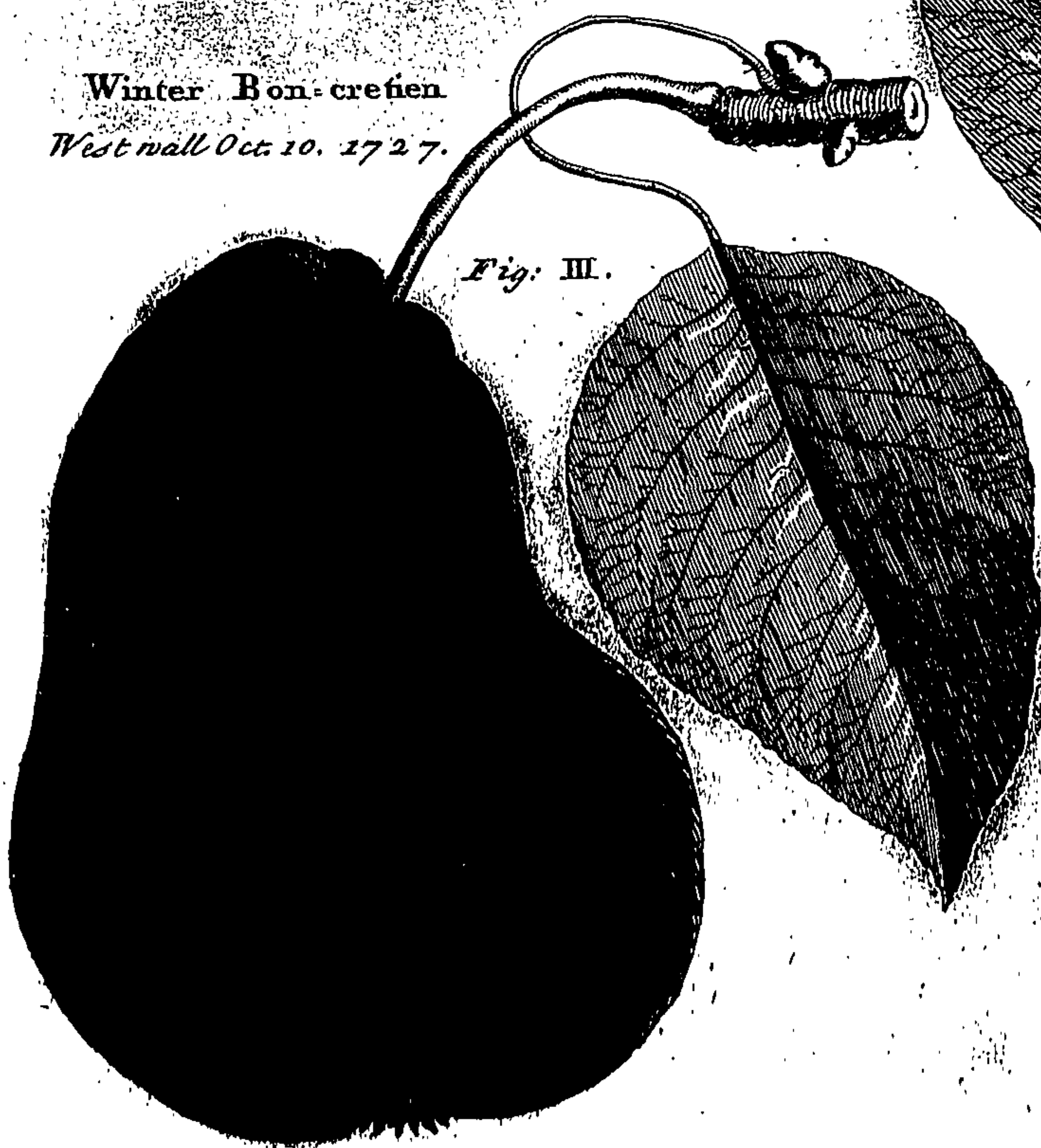
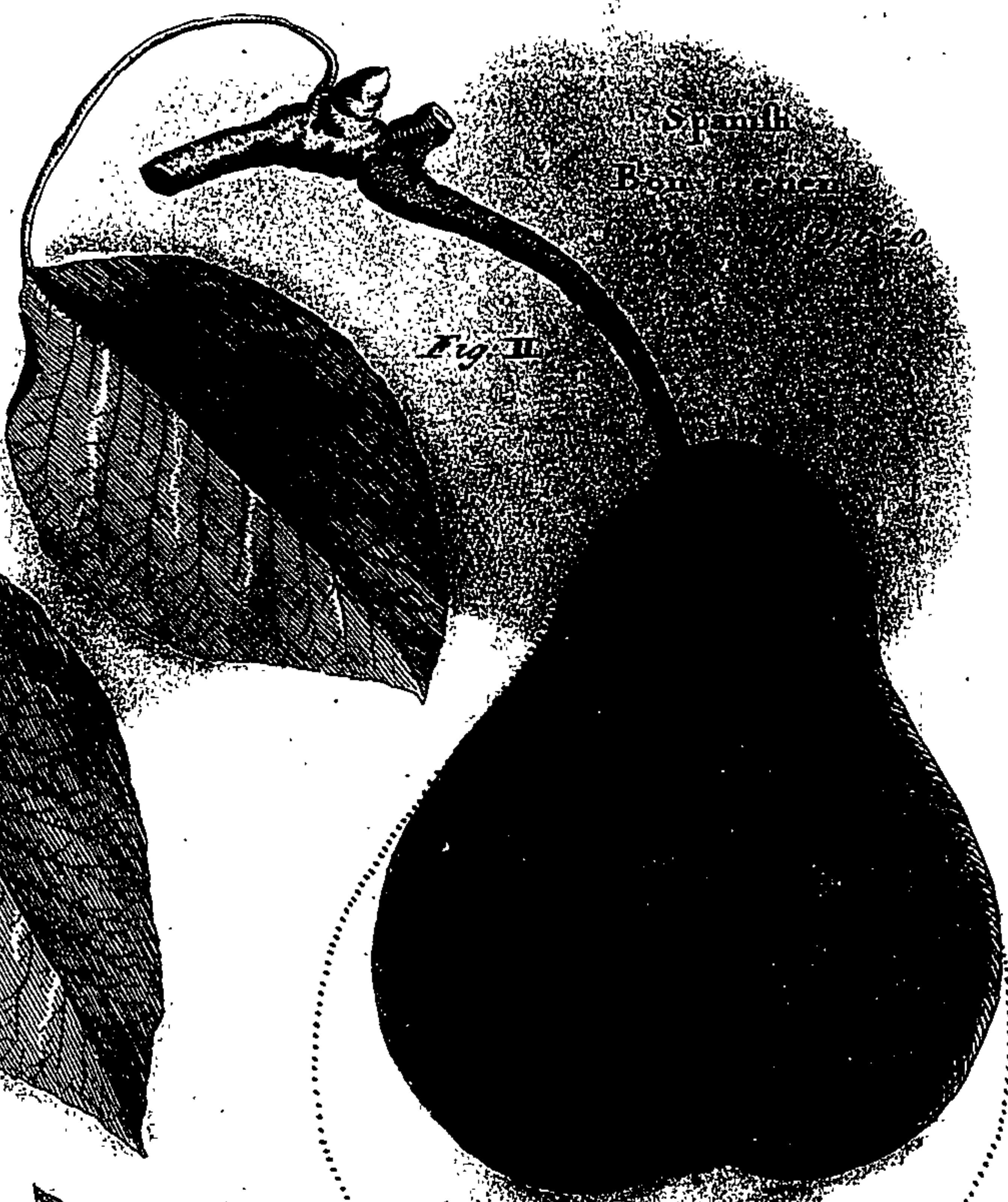
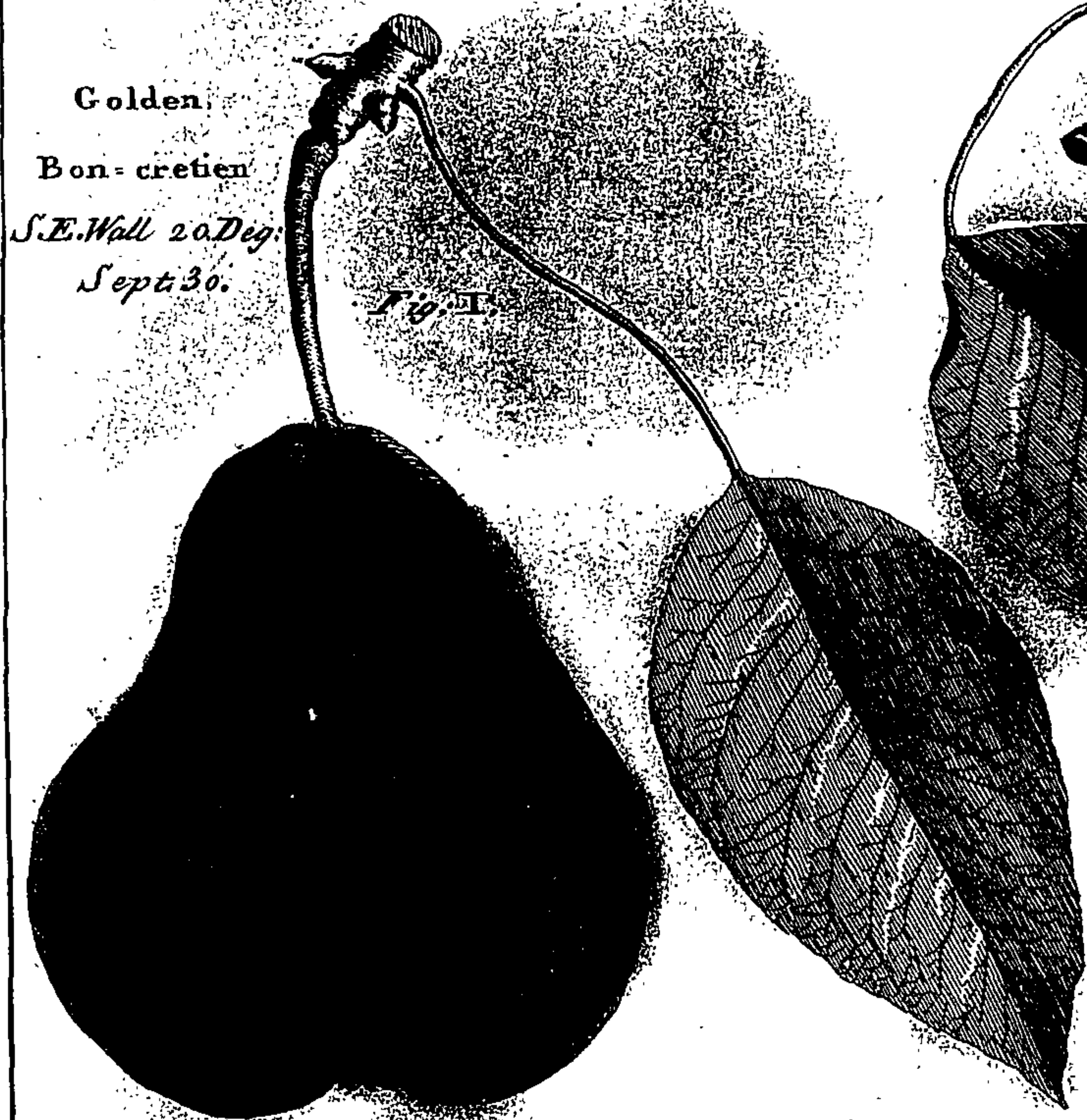


Fig. I.

Lombard
July 25th
1727.

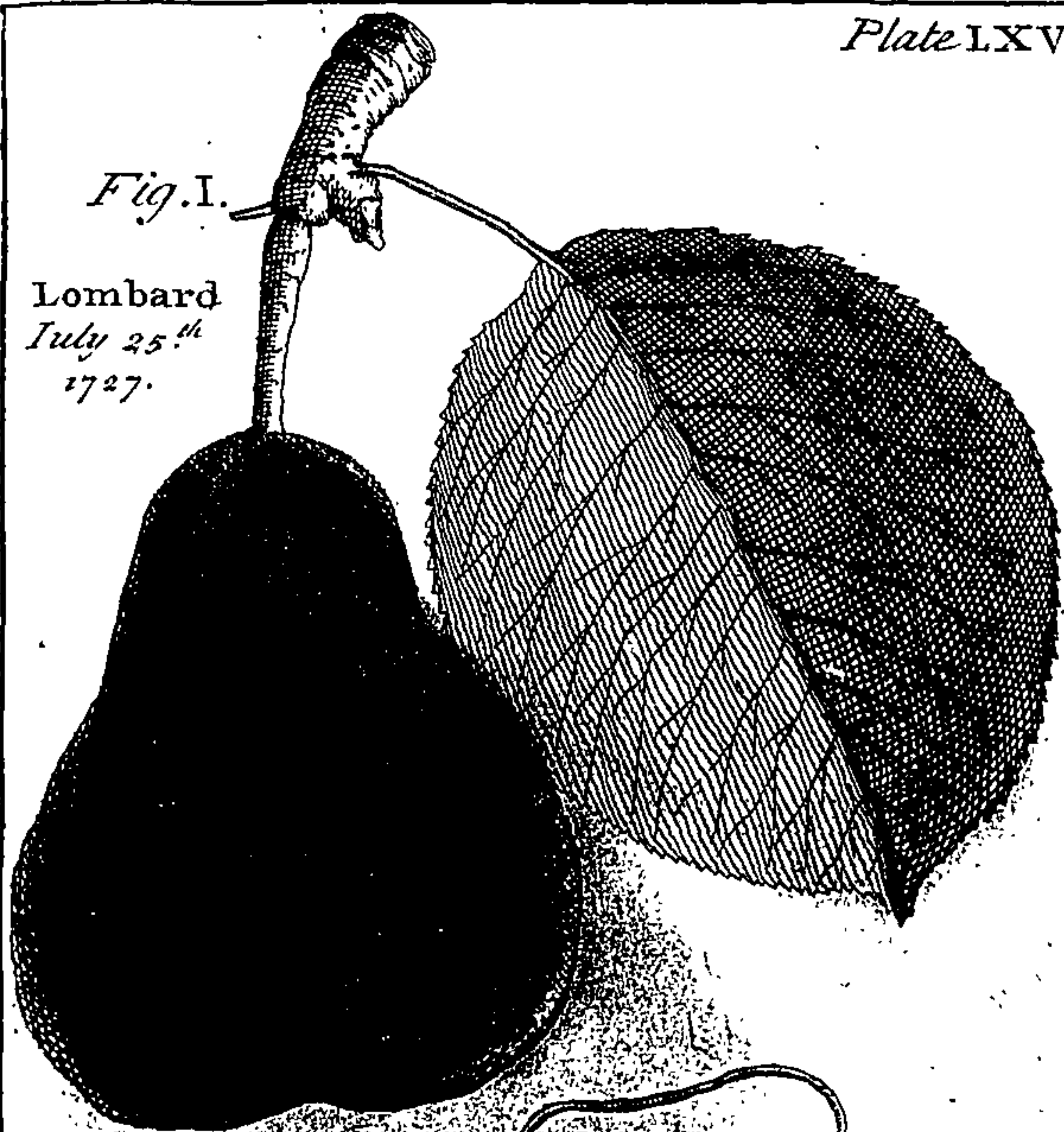
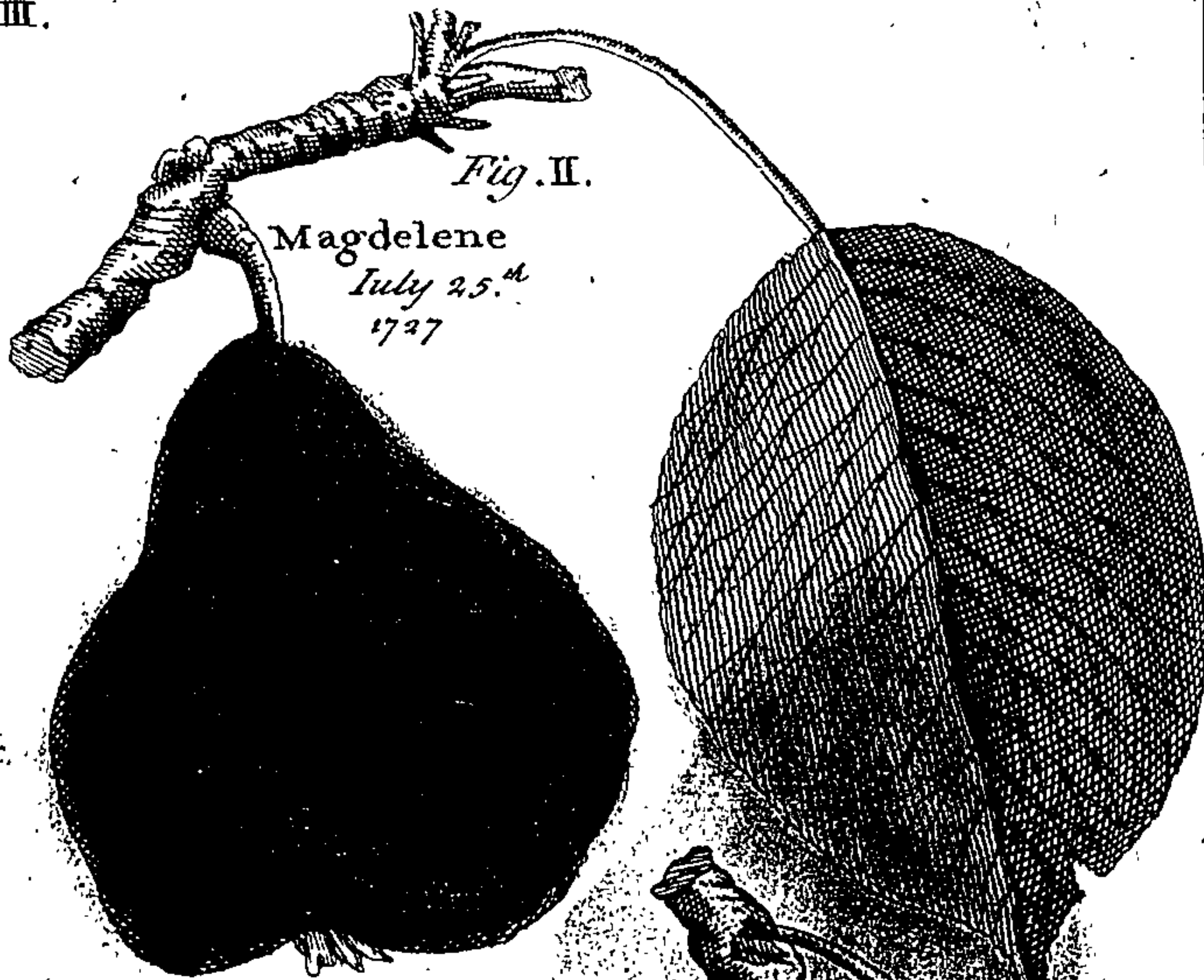
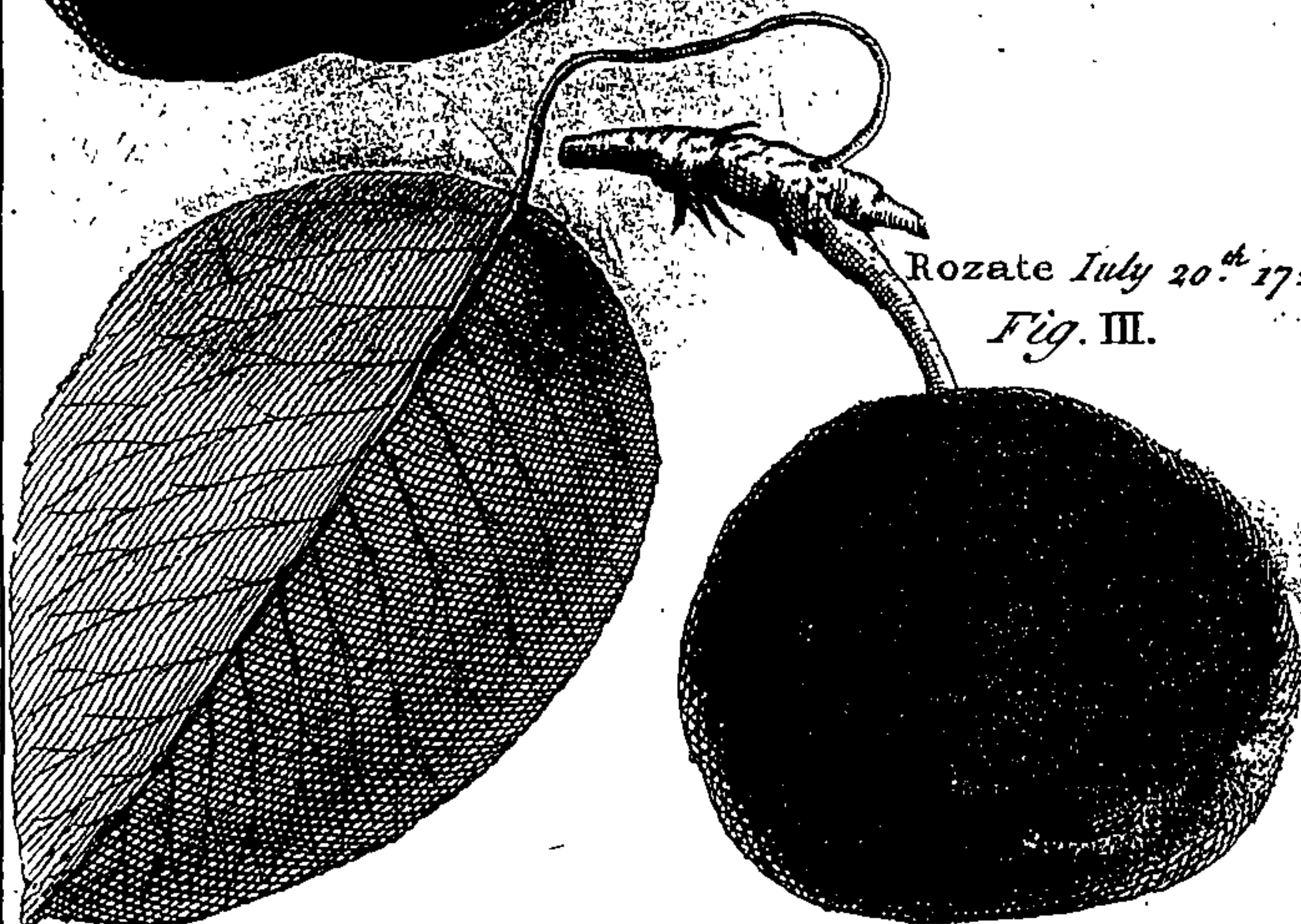


Fig. II.

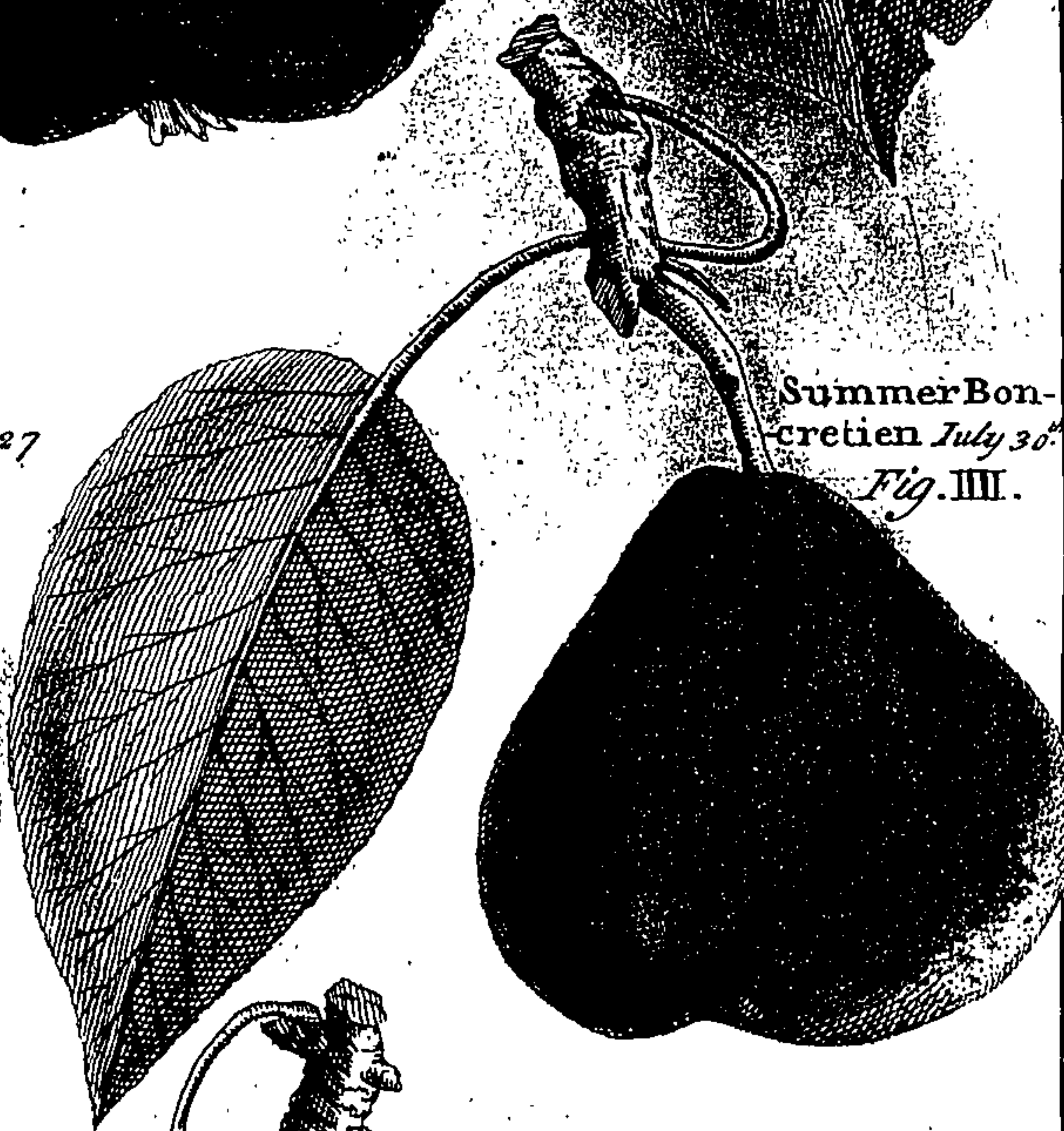
Magdelene
July 25th
1727



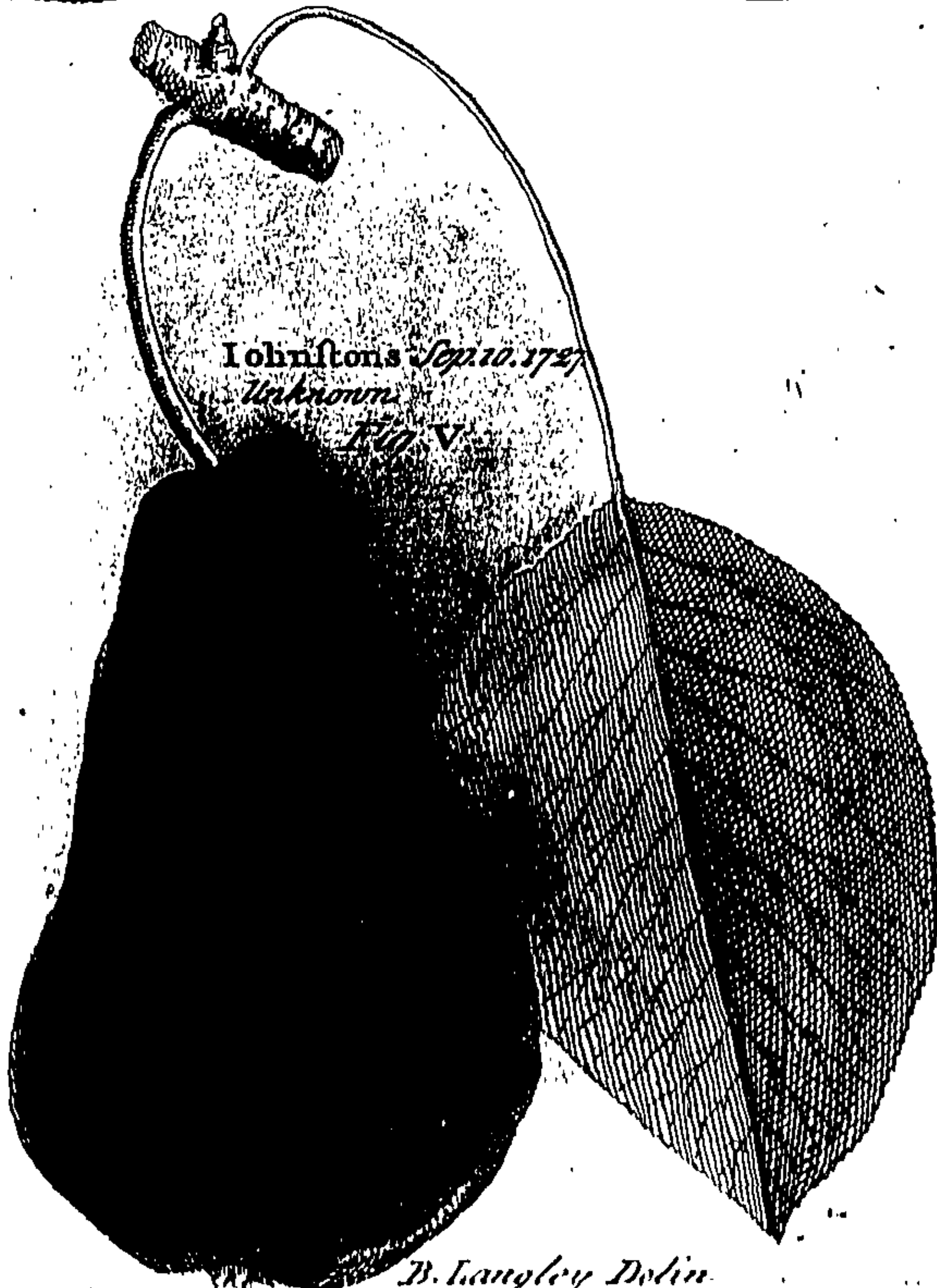
Rozate July 20th 1727
Fig. III.



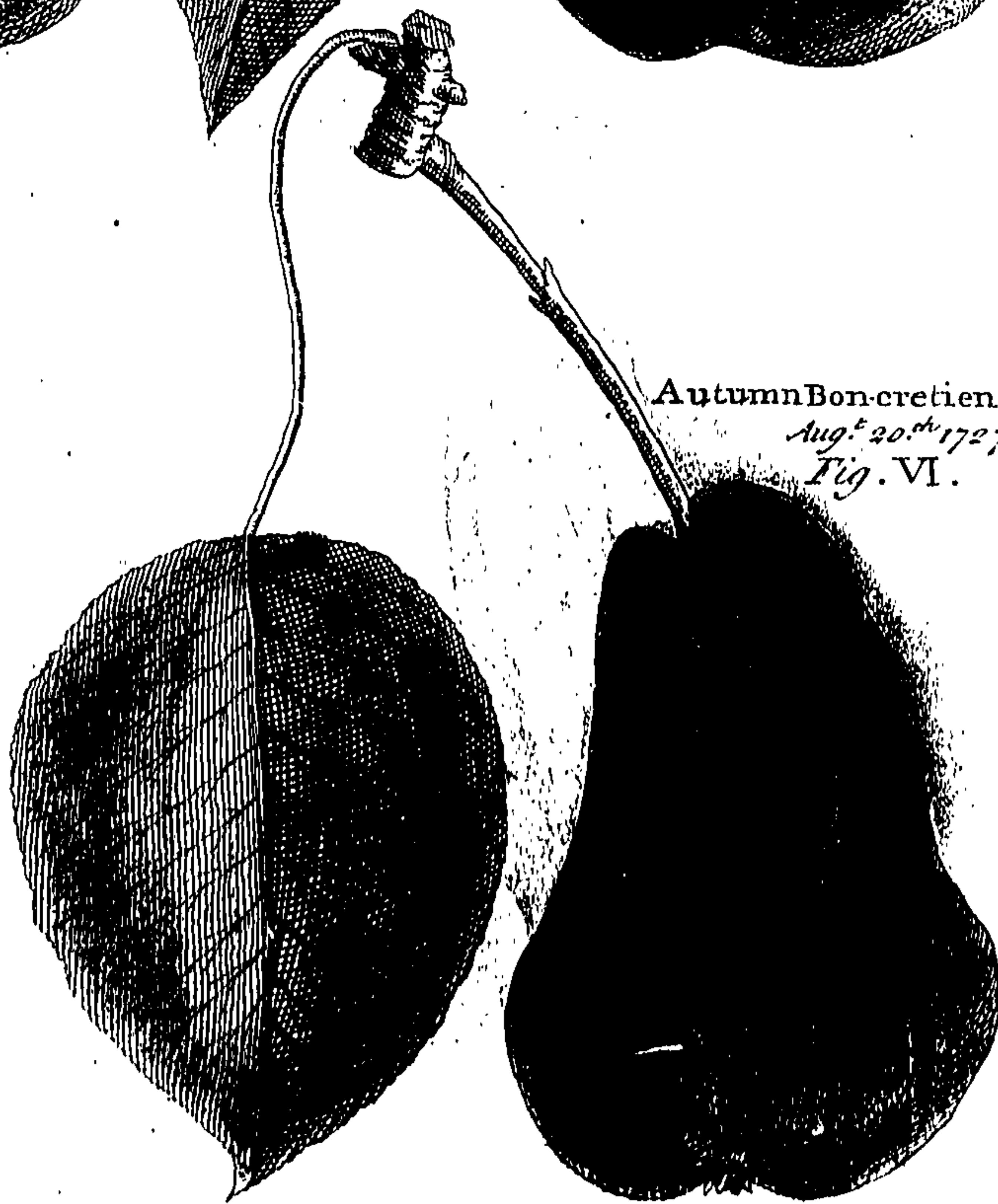
Summer Bon-
cretien July 30th
Fig. III.



Iohristons Sept. 10. 1727
Unknown
Fig. V.



Autumn Bon-cretien
Aug. 20th 1727.
Fig. VI.



La Chafserie
Fig. I.

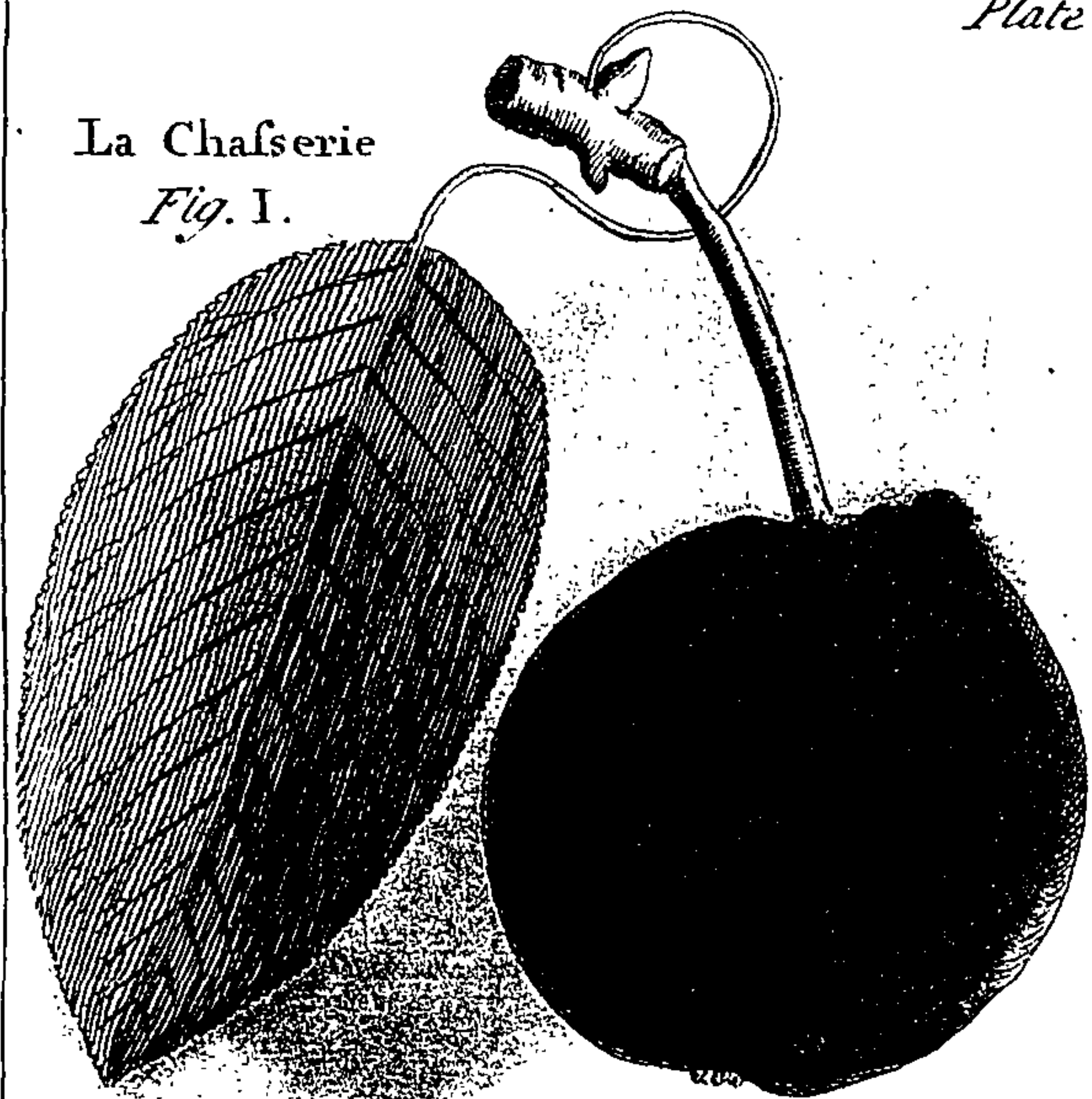


Fig. II. Winter
Burré

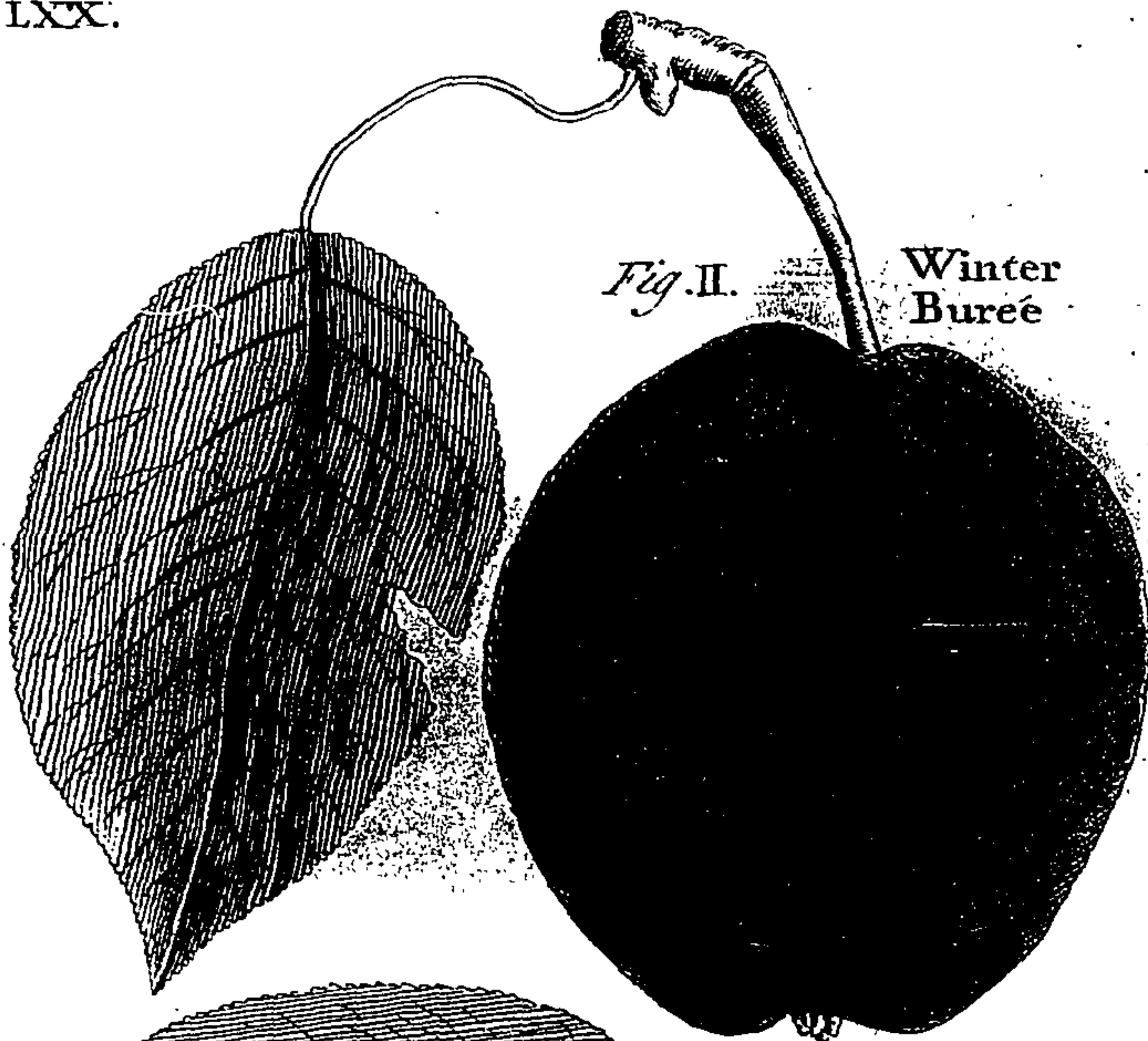


Fig. III.
Pear Lewis

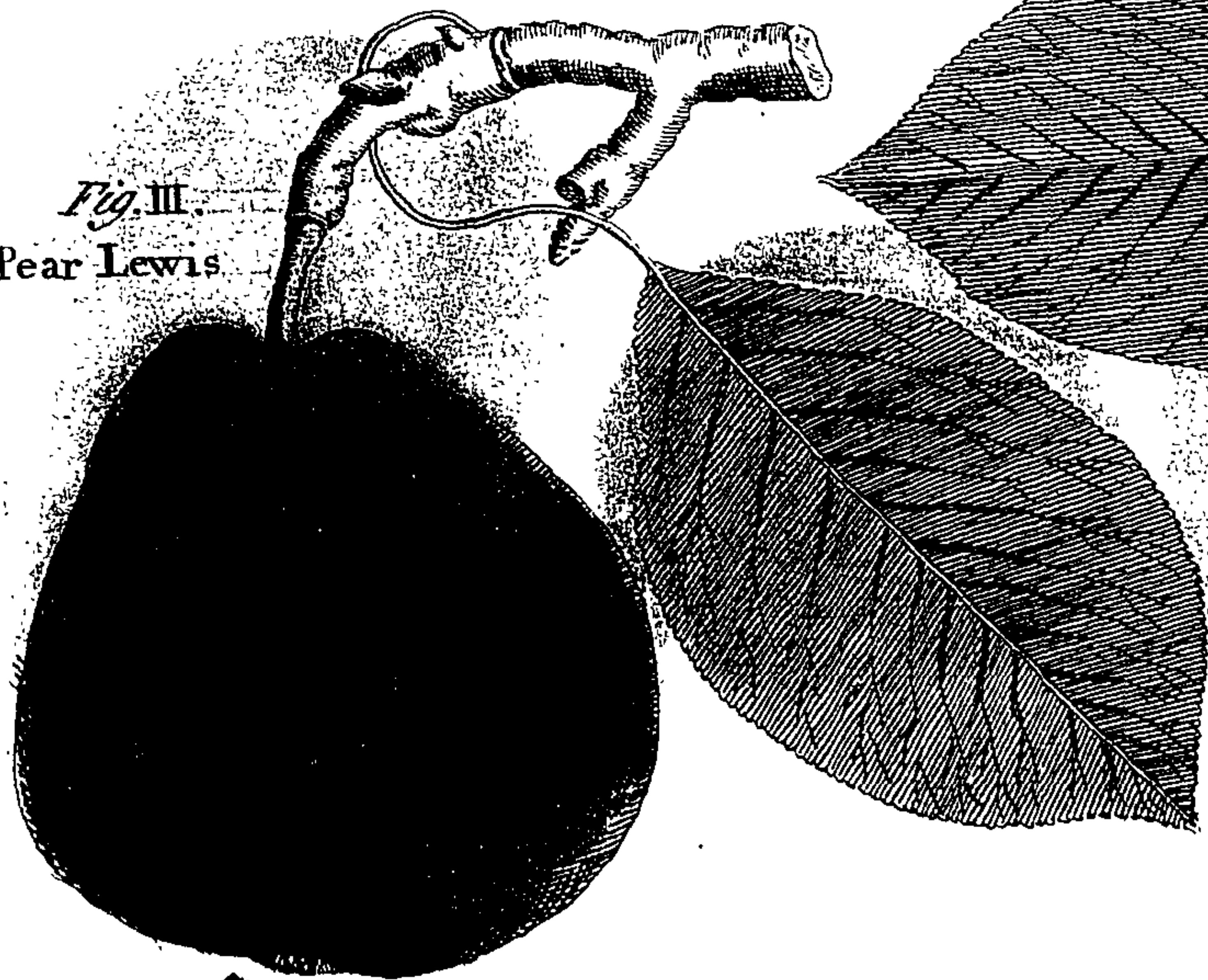


Fig. IV.
Donville



Fig. V.
St. Francis

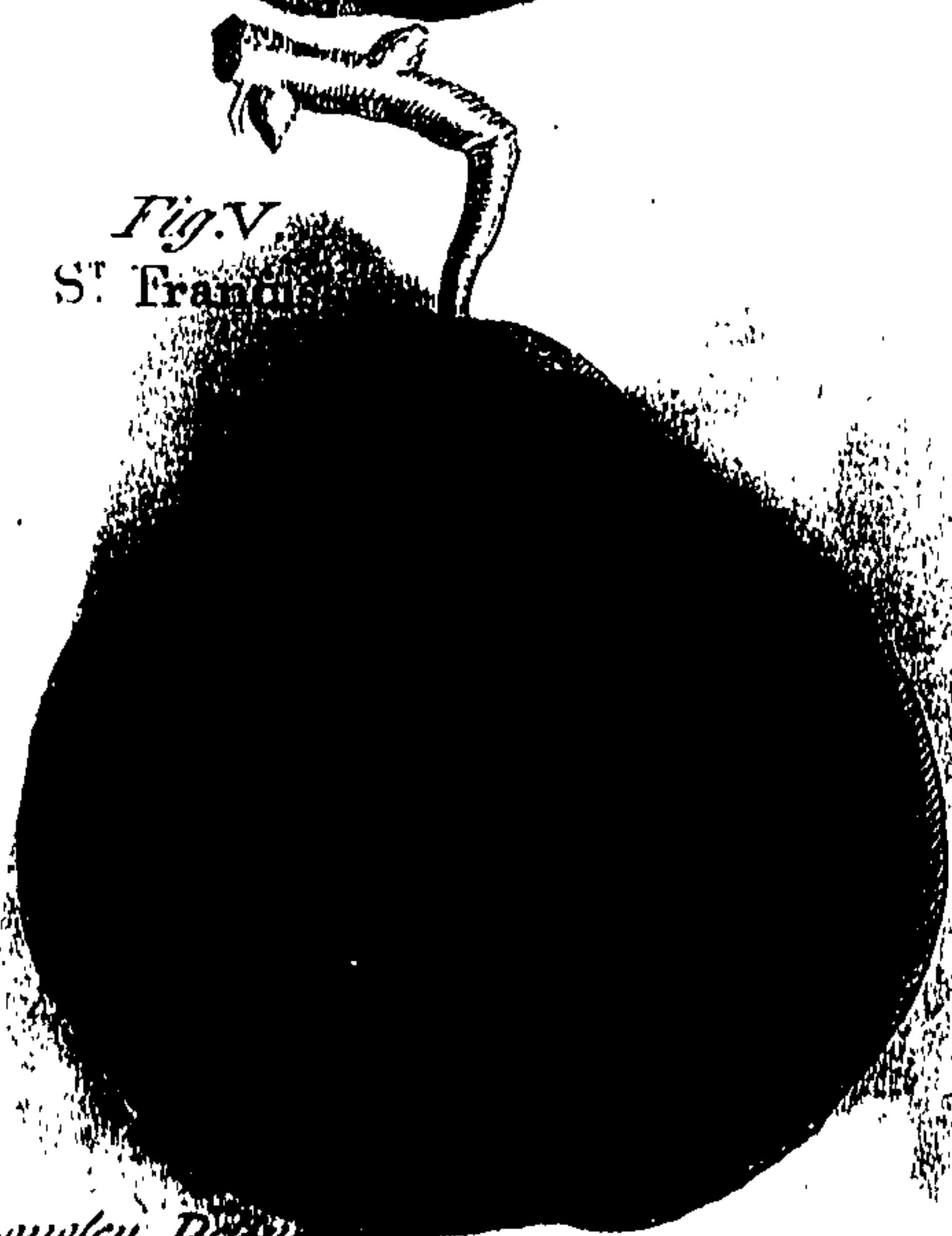


Fig. VI.
Ripley



Black Pear
of Worcester

Fig. II.

The Pickering Pear
or D^r. Udale's Warden

Fig. I.

Pound Pear

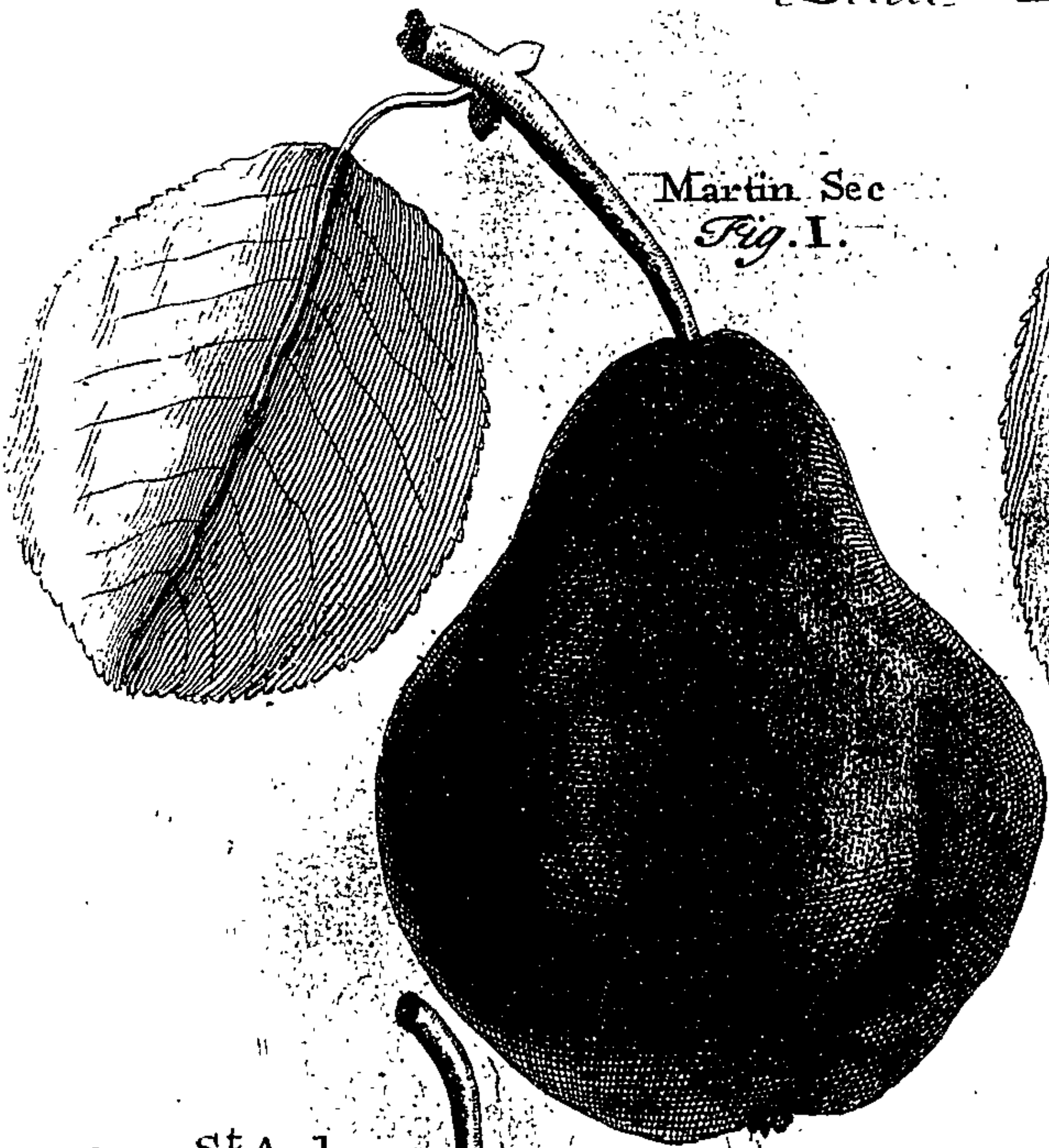
Fig. III.

Cadillac

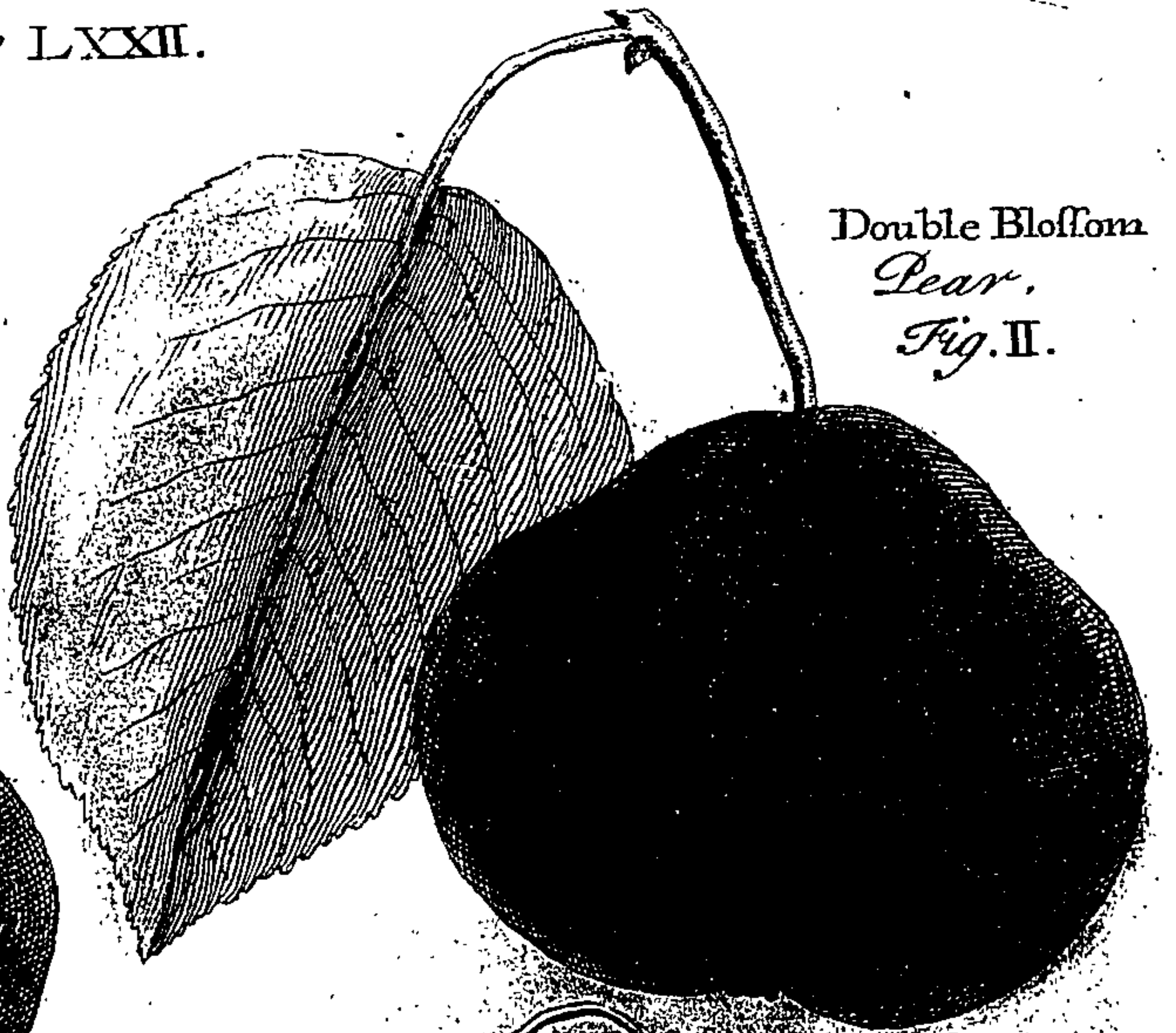
Fig. III.

Plate LXXII.

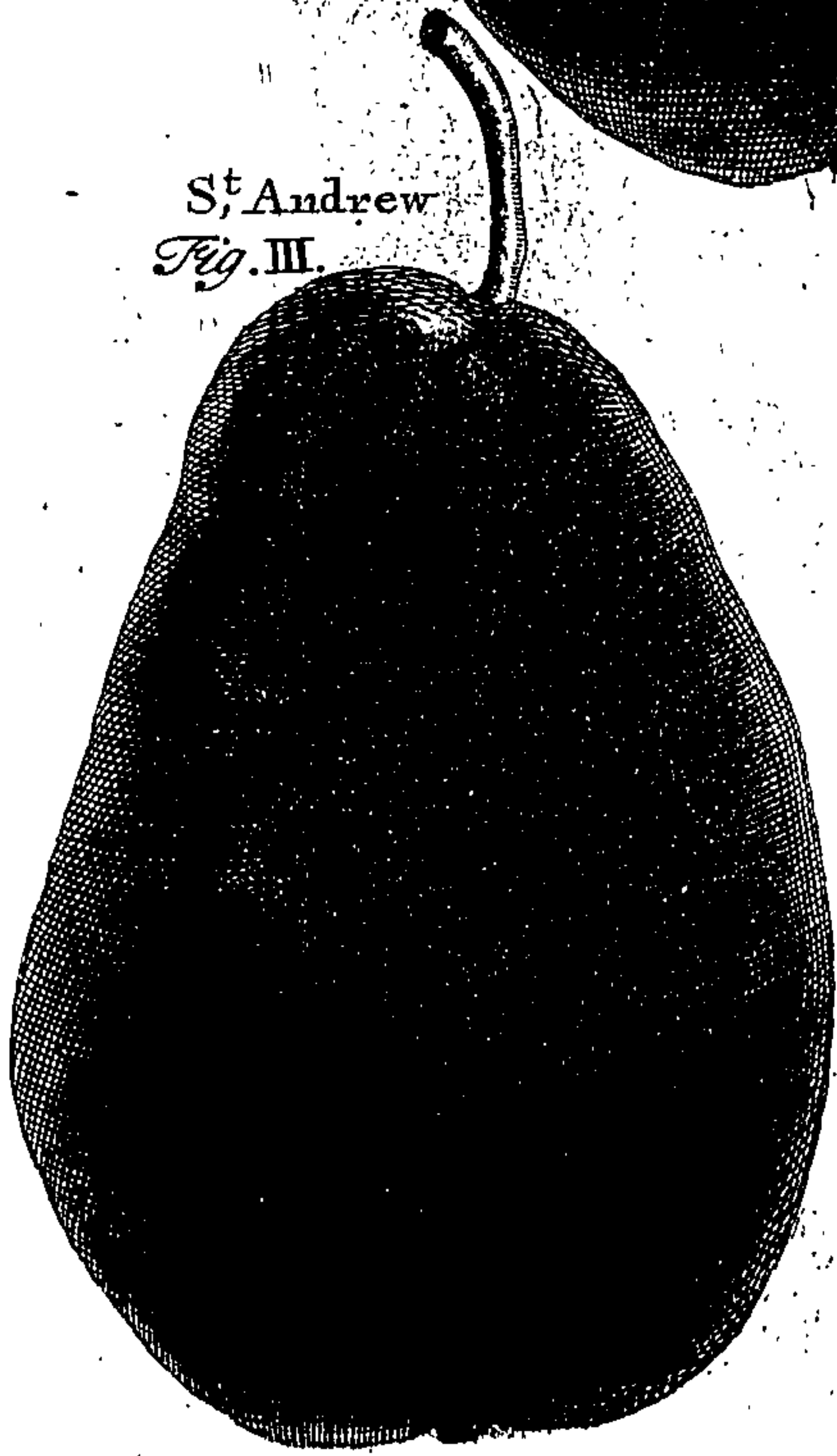
Martin. Sec
Fig. I.



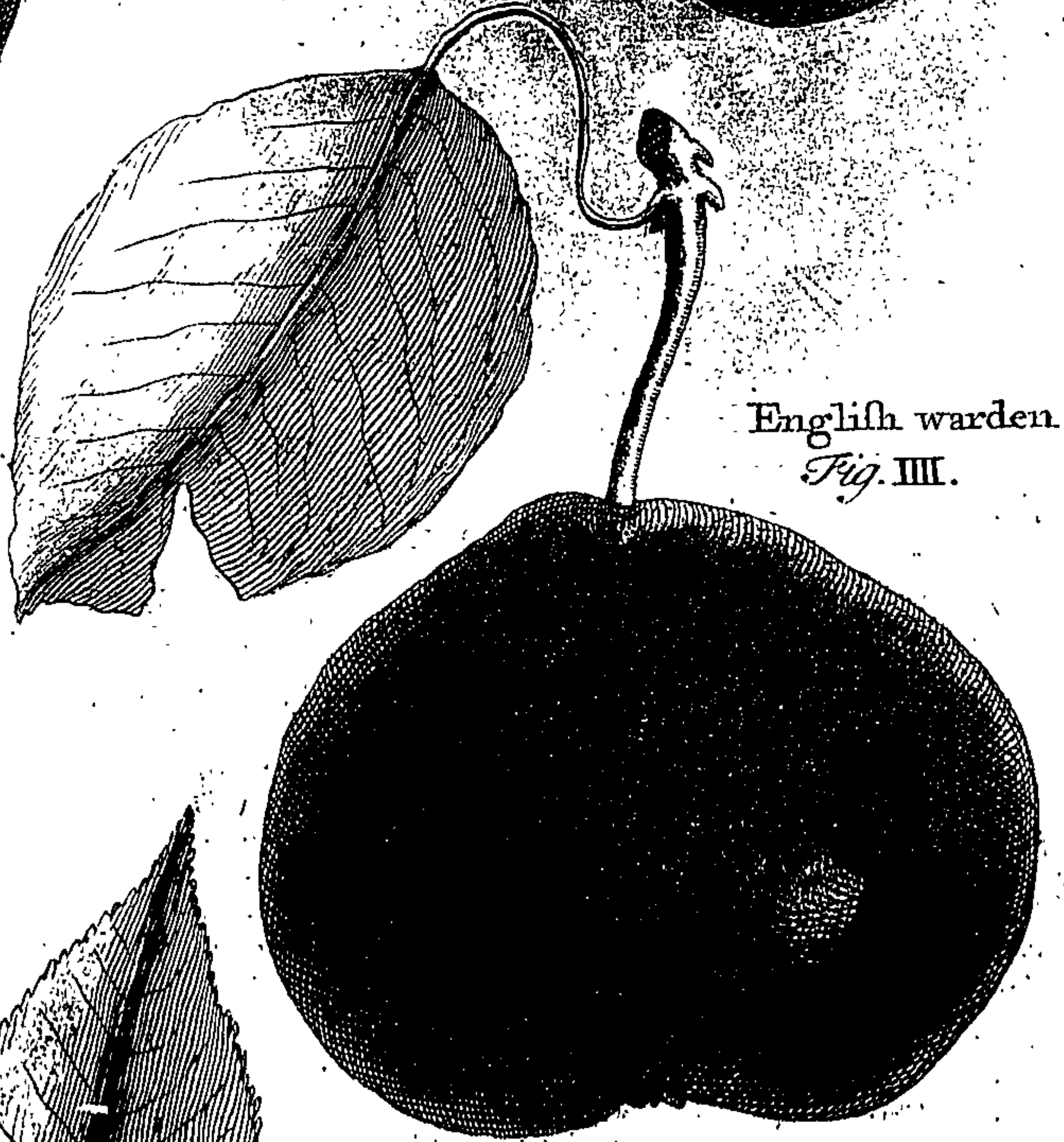
Double Blossom
Pear.
Fig. II.



S^t Andrew
Fig. III.



English warden.
Fig. IIII.



Muscat almaine
Fig. V.

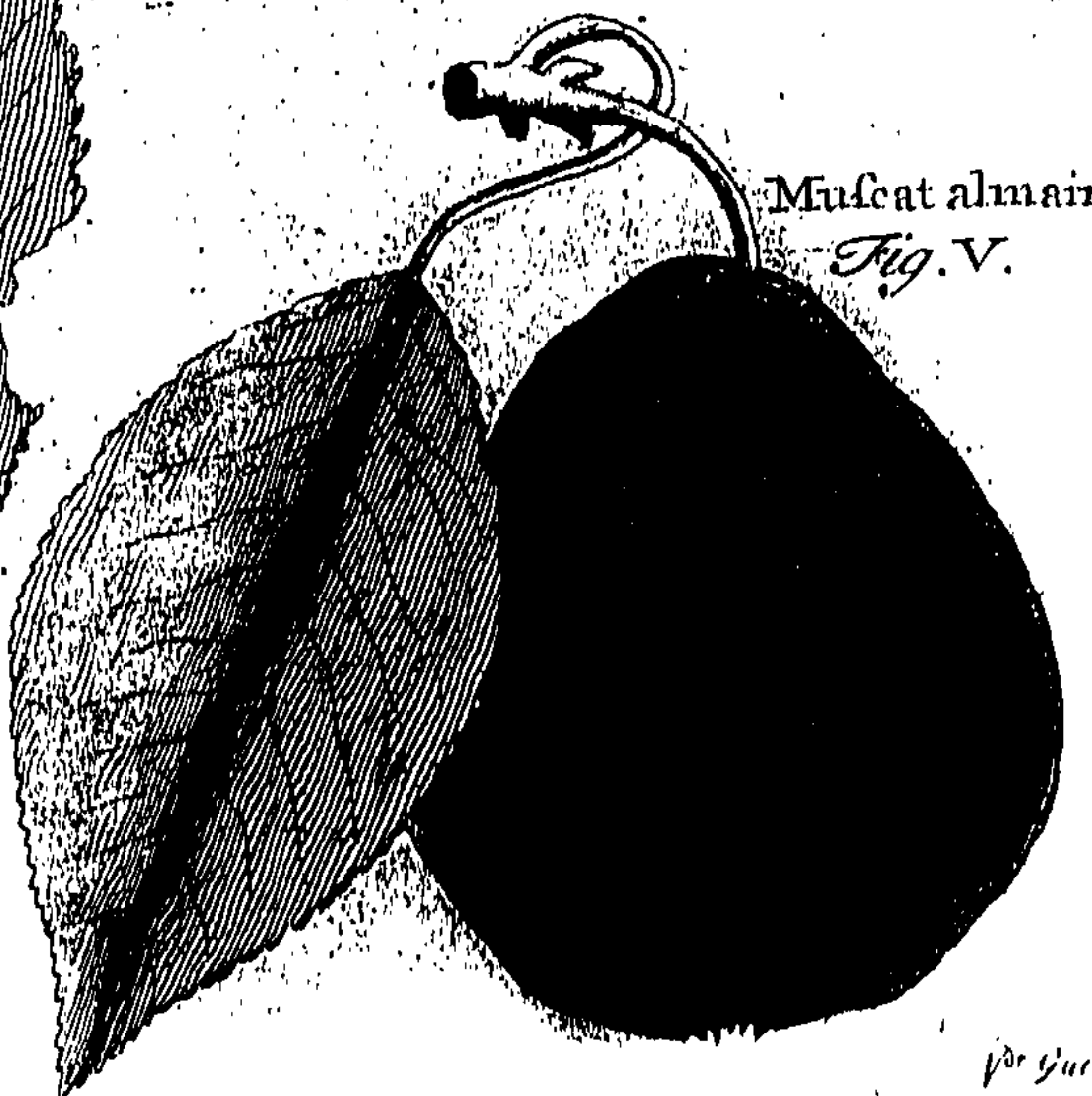
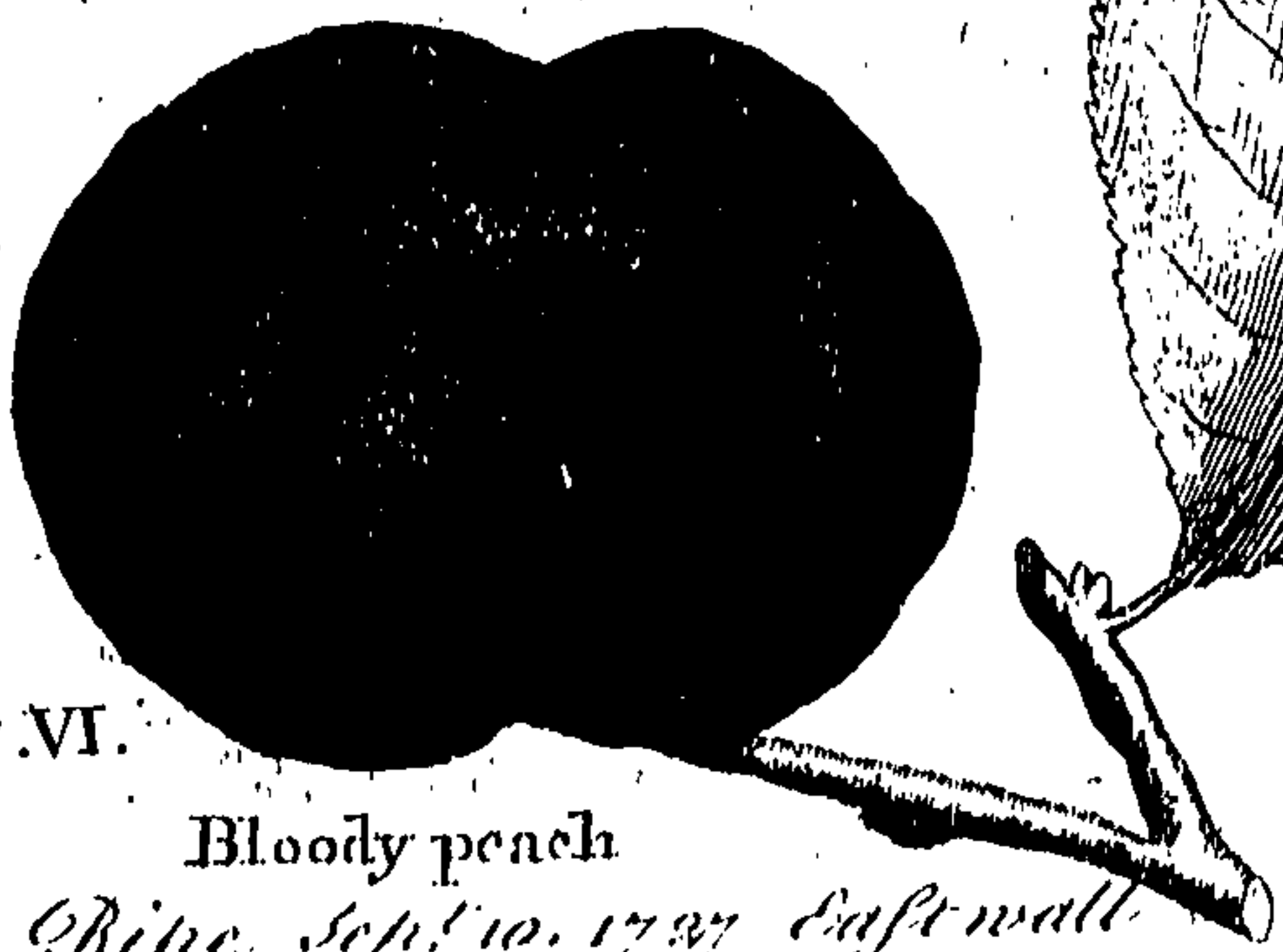


Fig. VI.

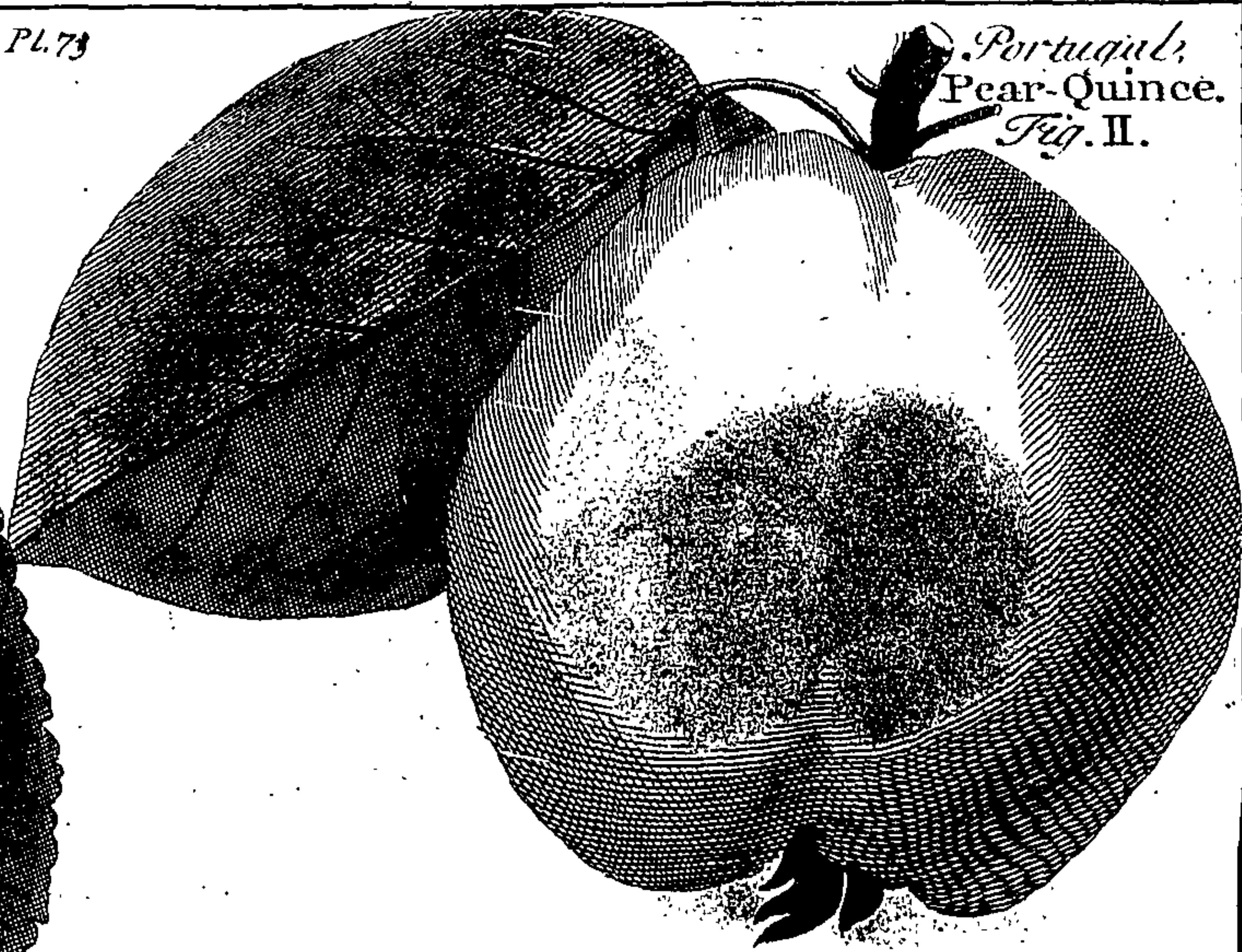
Bloody peach
Ripe. Sept. 10. 1797 East wall
B. Langley. Delin.



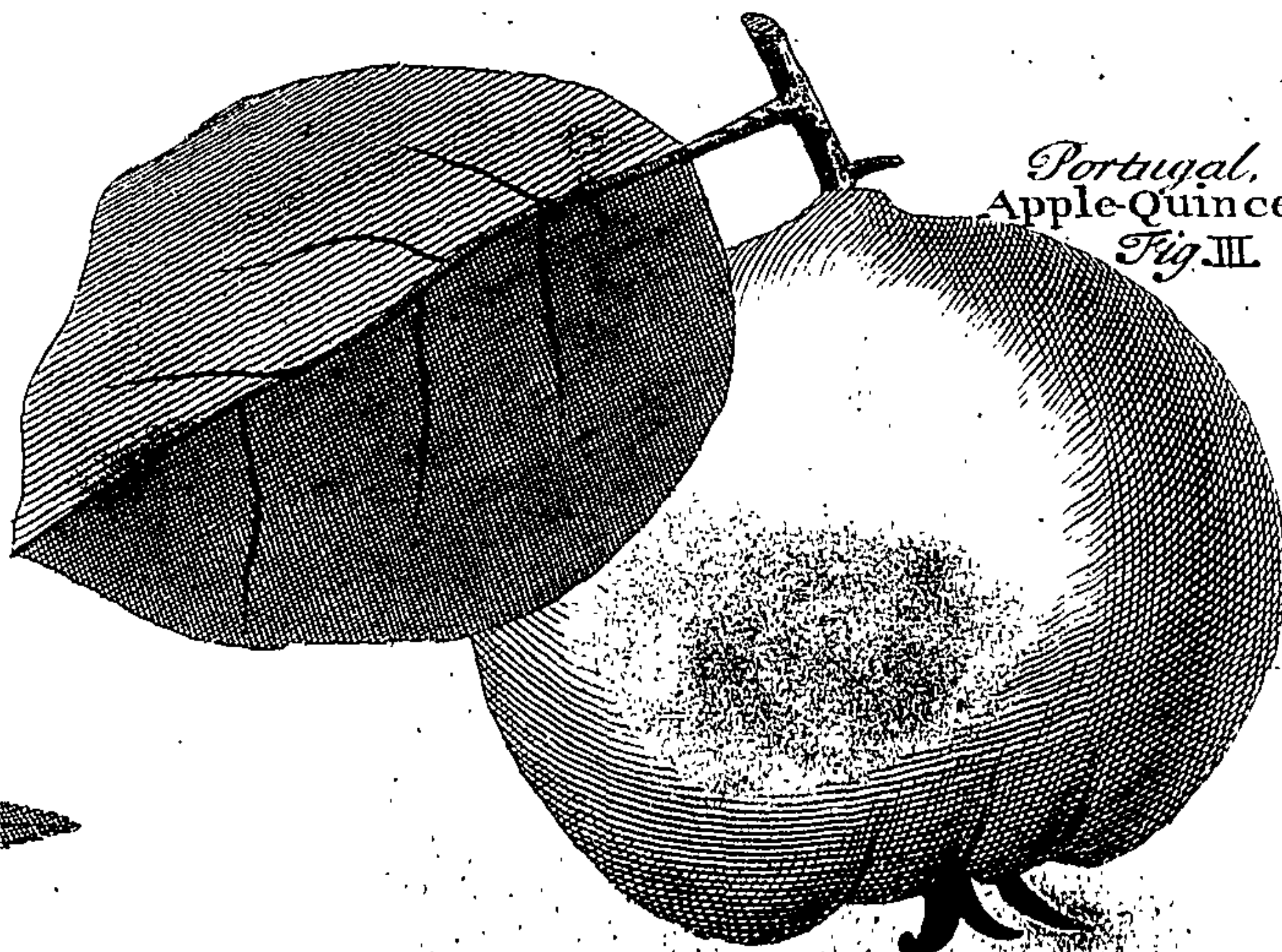
Medlar *Fig. I.*



Portugul,
Pear-Quince.
Fig. II.



Portugal,
Apple-Quince.
Fig. III.



Service *Fig. IIII*

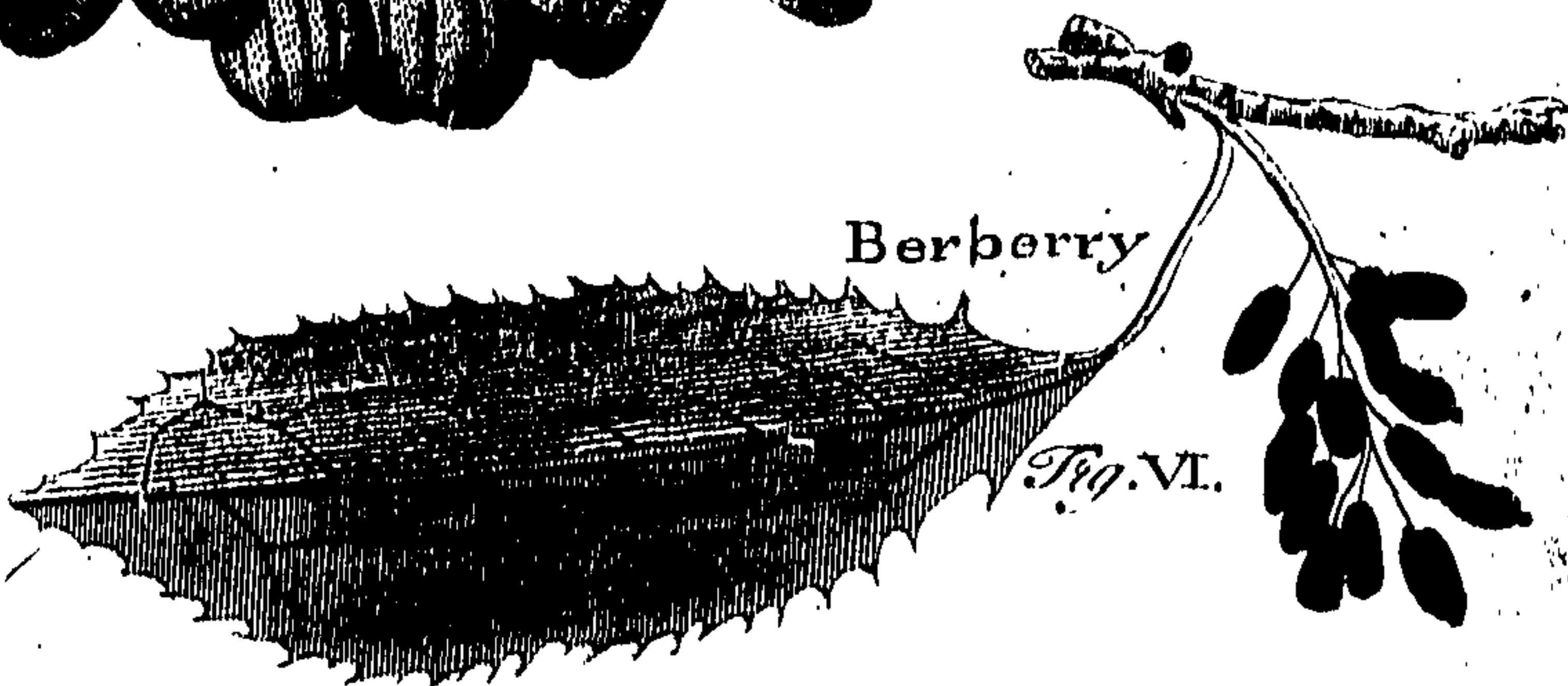


English,
Quince.
Fig. V.



Berberry

Fig. VI.



Marg^c Apple

June 15.

1727.

Fig. I.

Pl. 74

Genneting

June 1st

1727

Fig. II.

Codling

July 20.

1727.

Fig. III.

Liftning

July 20.

1727.

Fig. V.

Golden Rennet, Sept 30. 1727.

Kirton Pippin, Sept. 30.

1727.

Fig. VI.

Fig. VII.

Yellow Golden
Pippin Sept. 10

1727.

Fig. VIII.

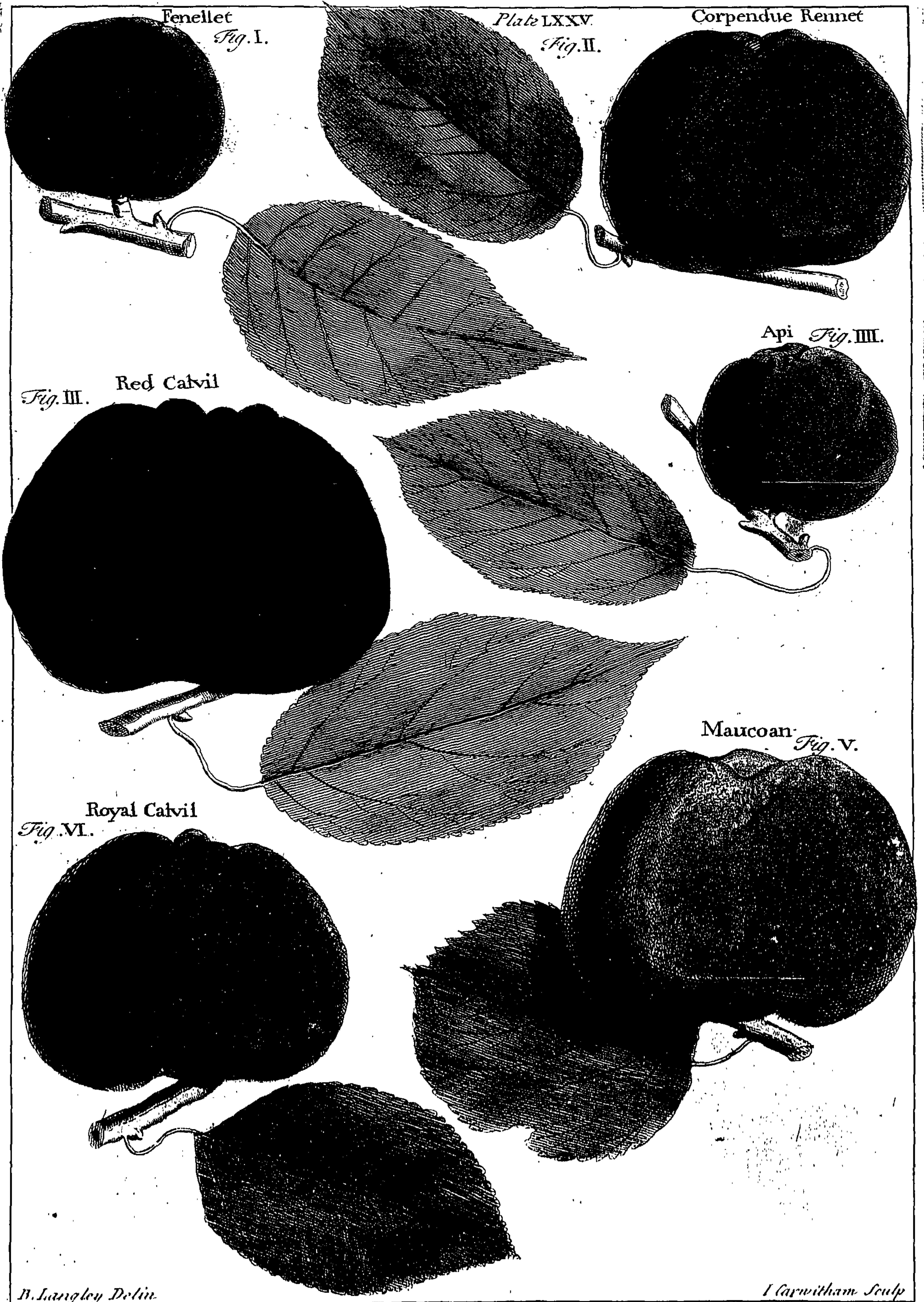
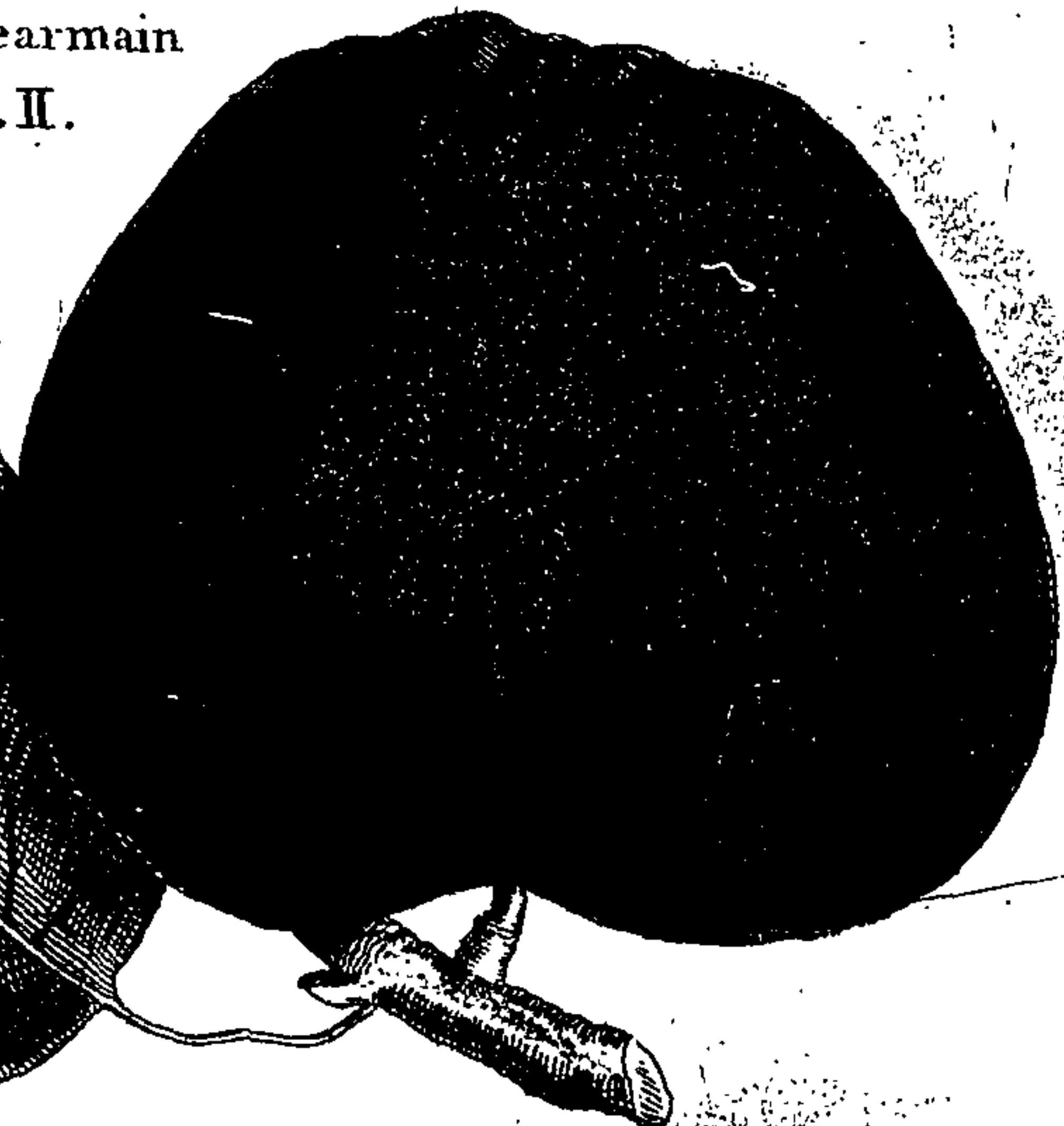
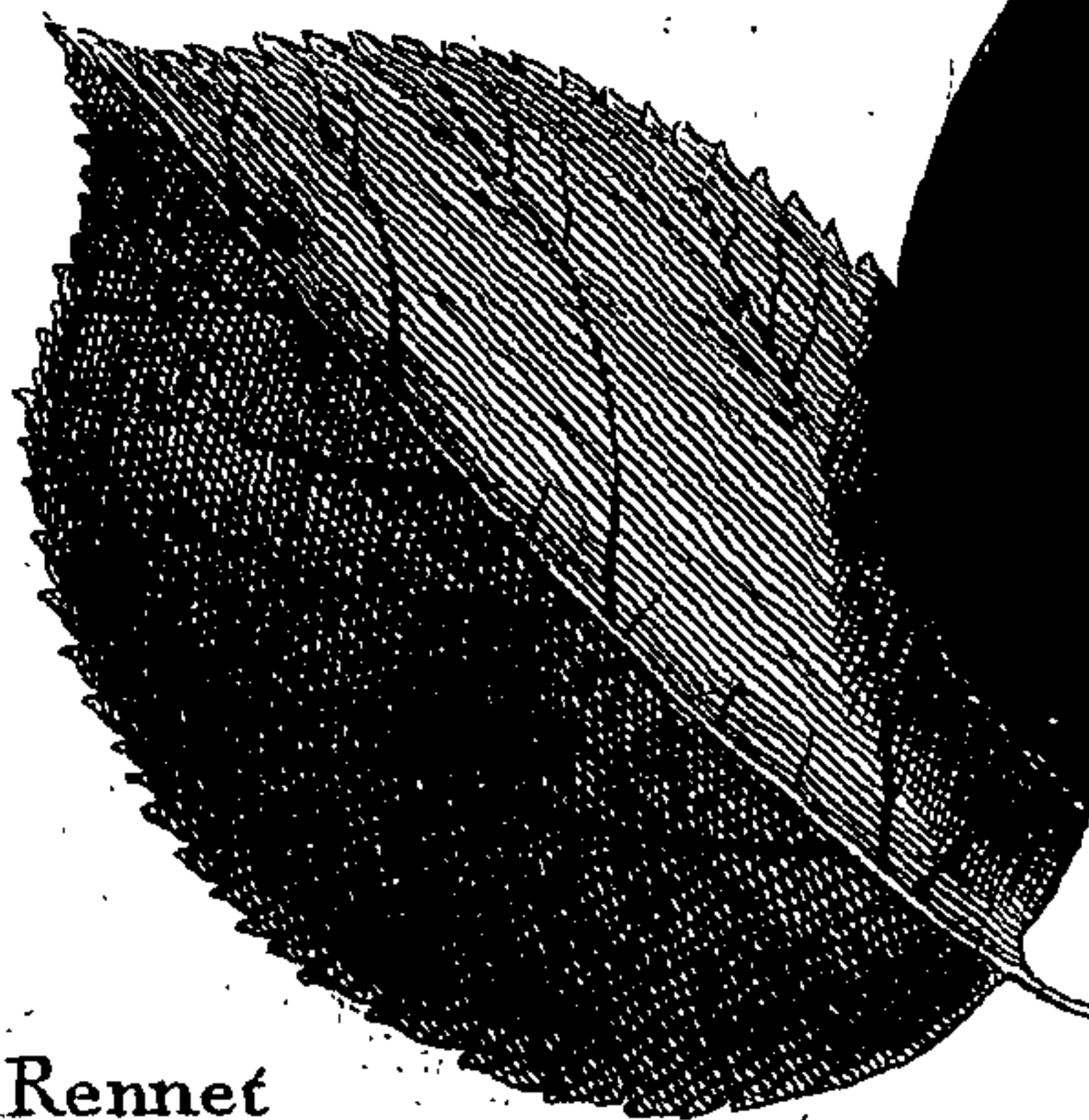
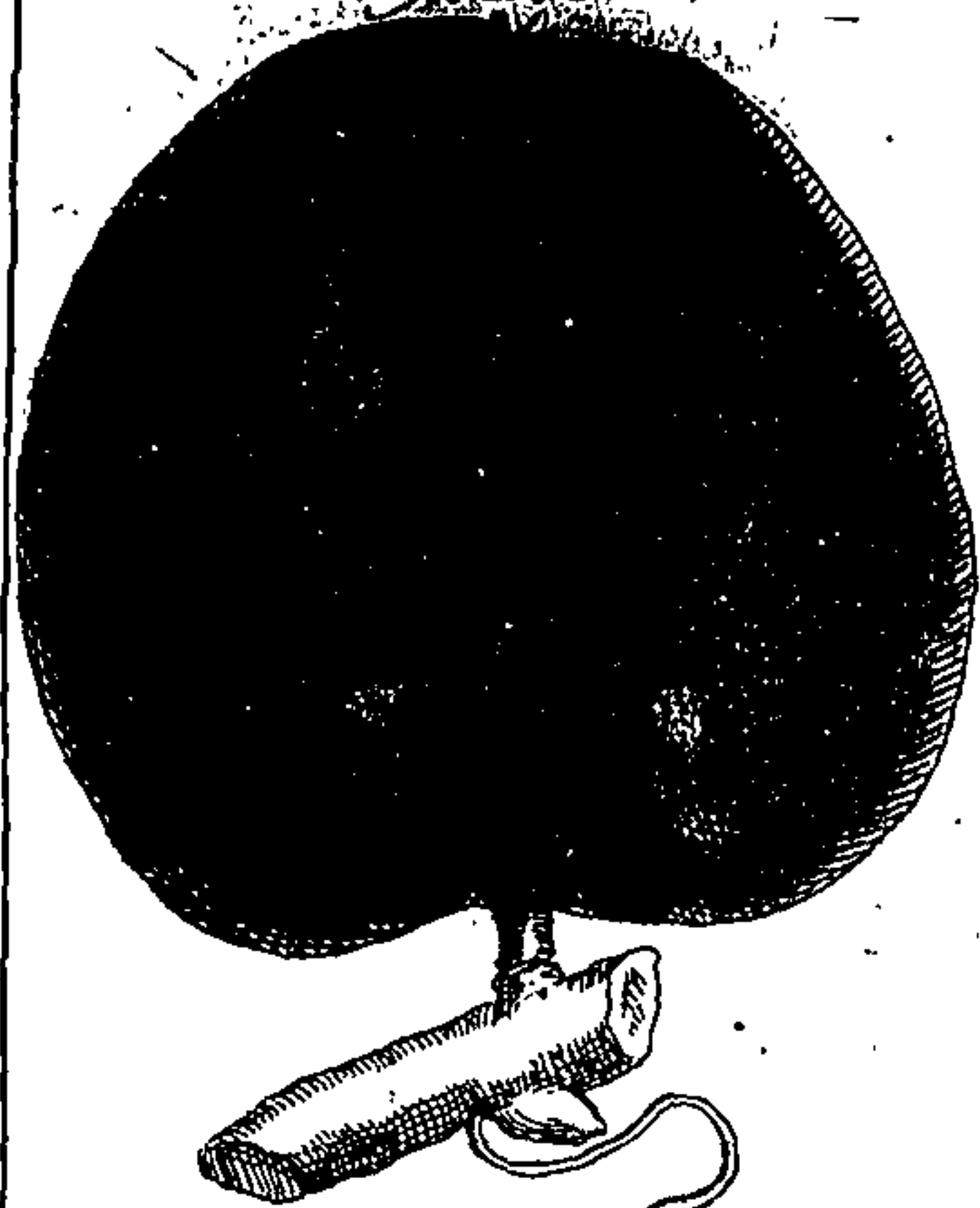


Fig. I.

Fig. II.



French Rennet

Ierusalem Apple

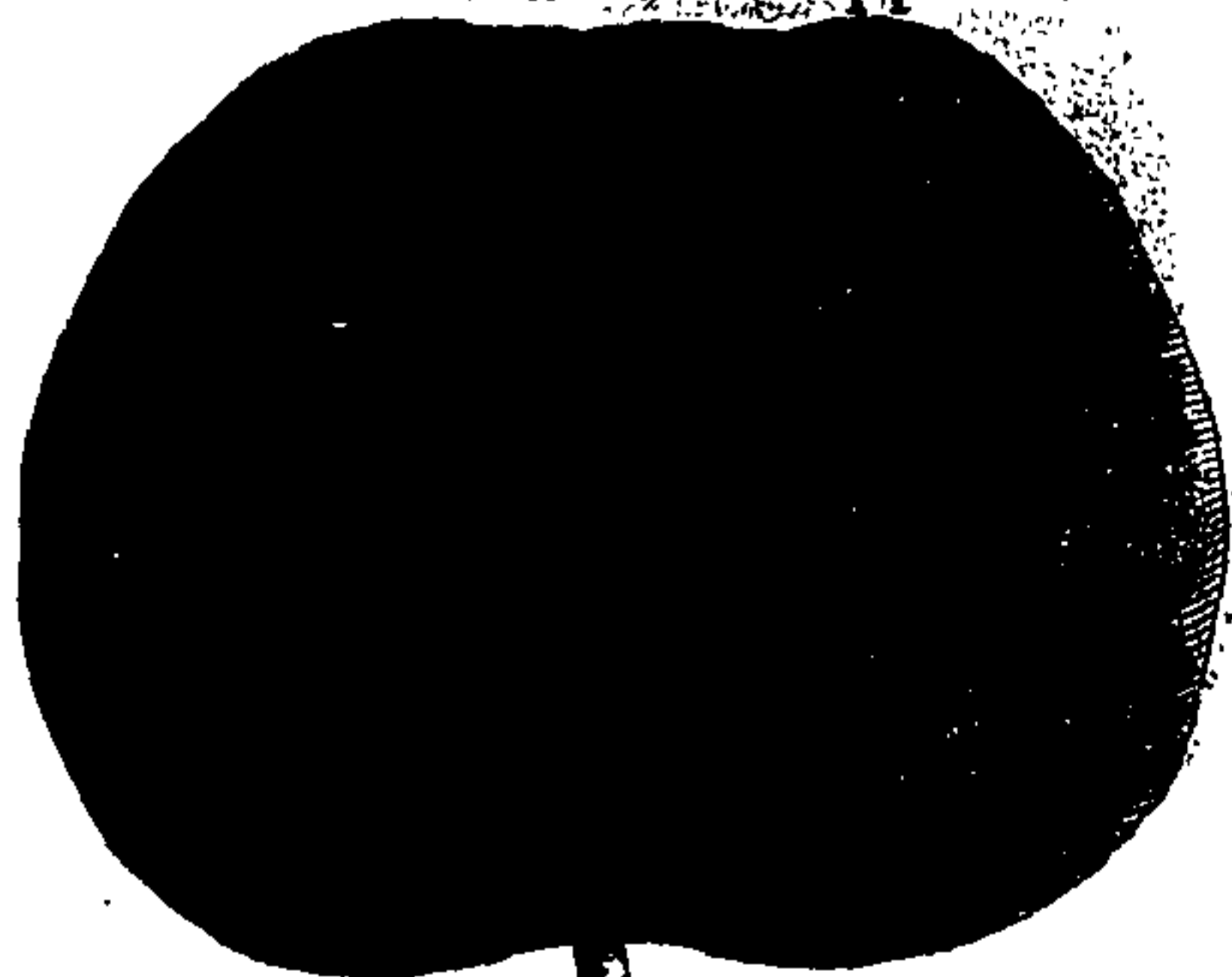
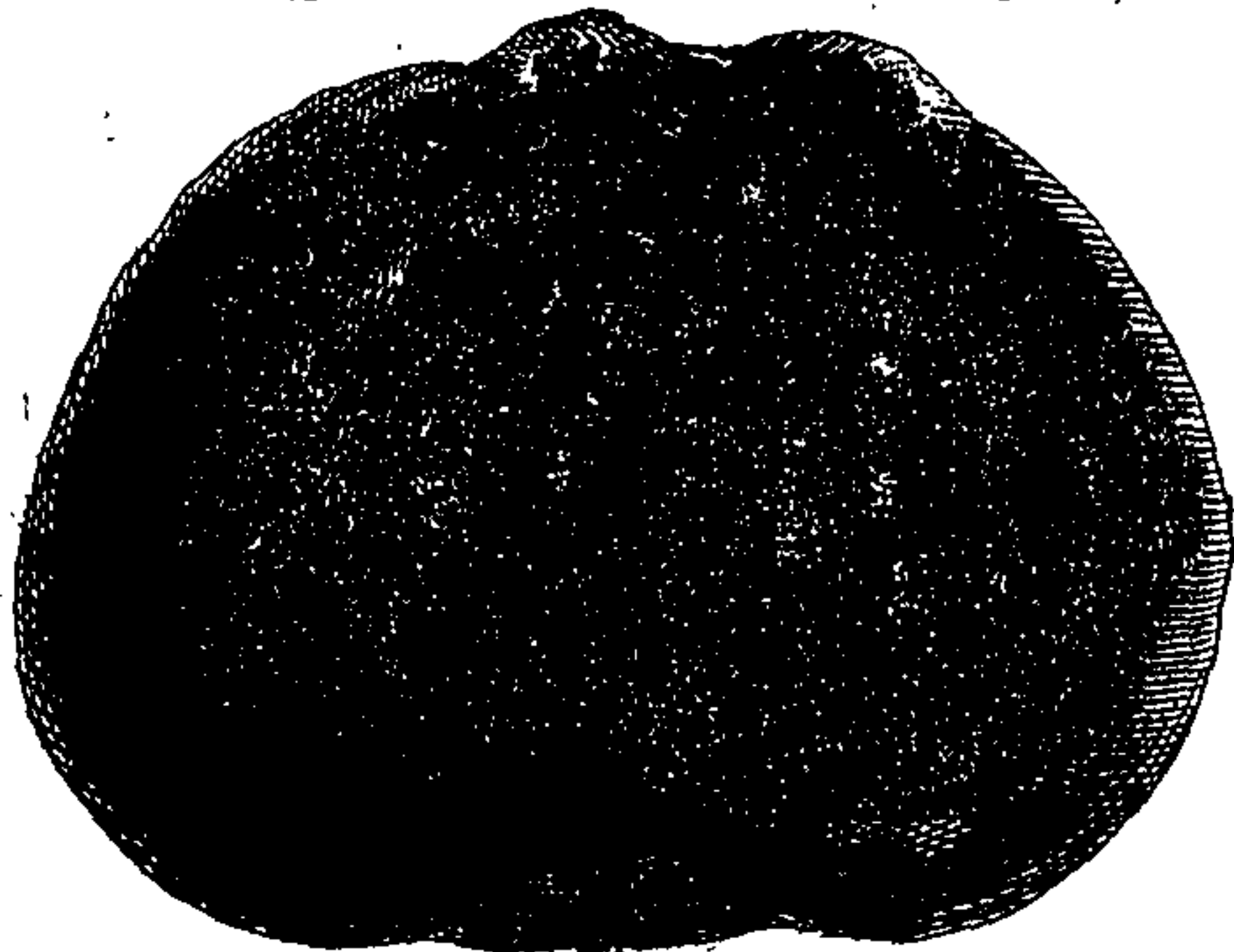
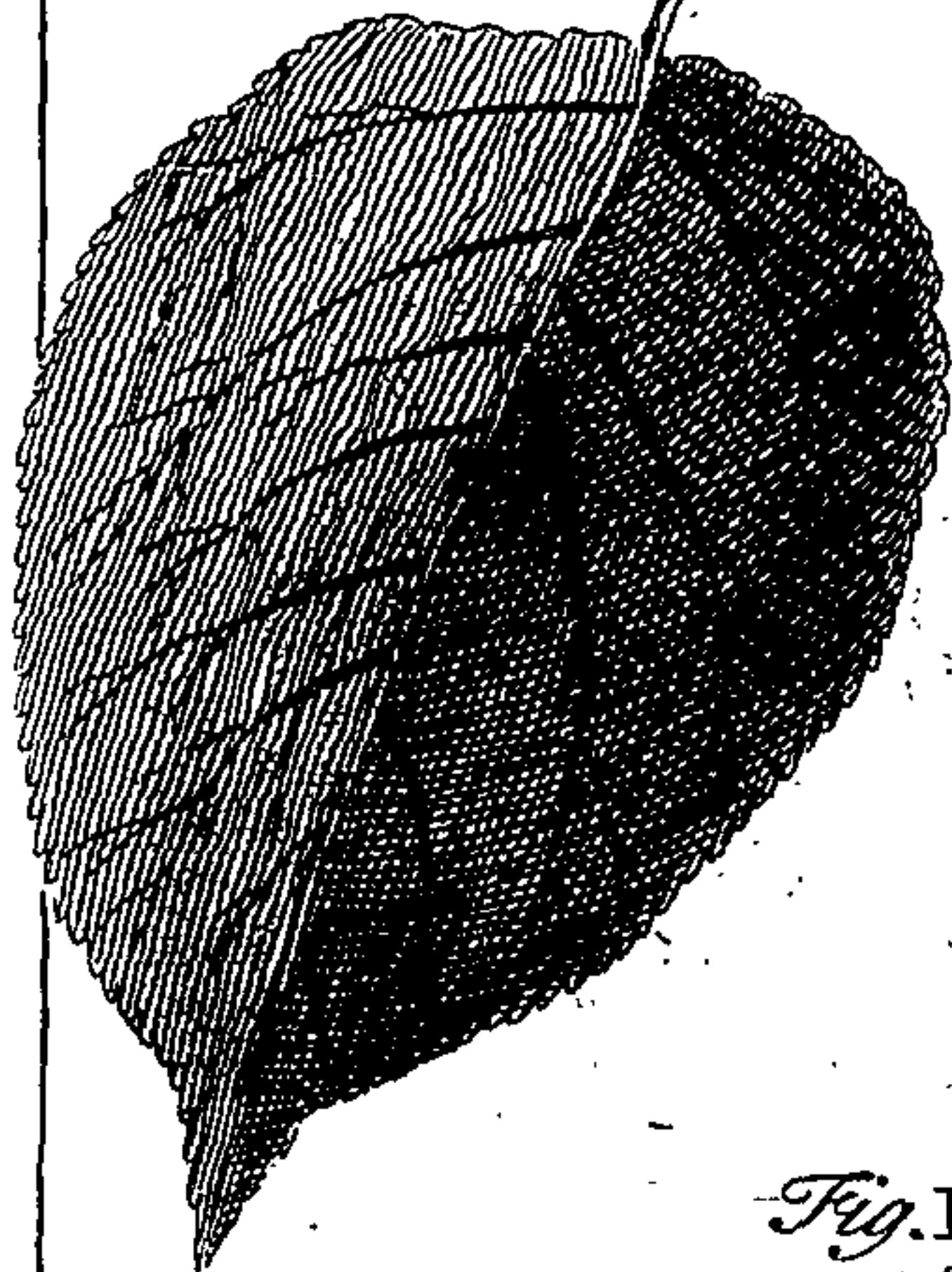
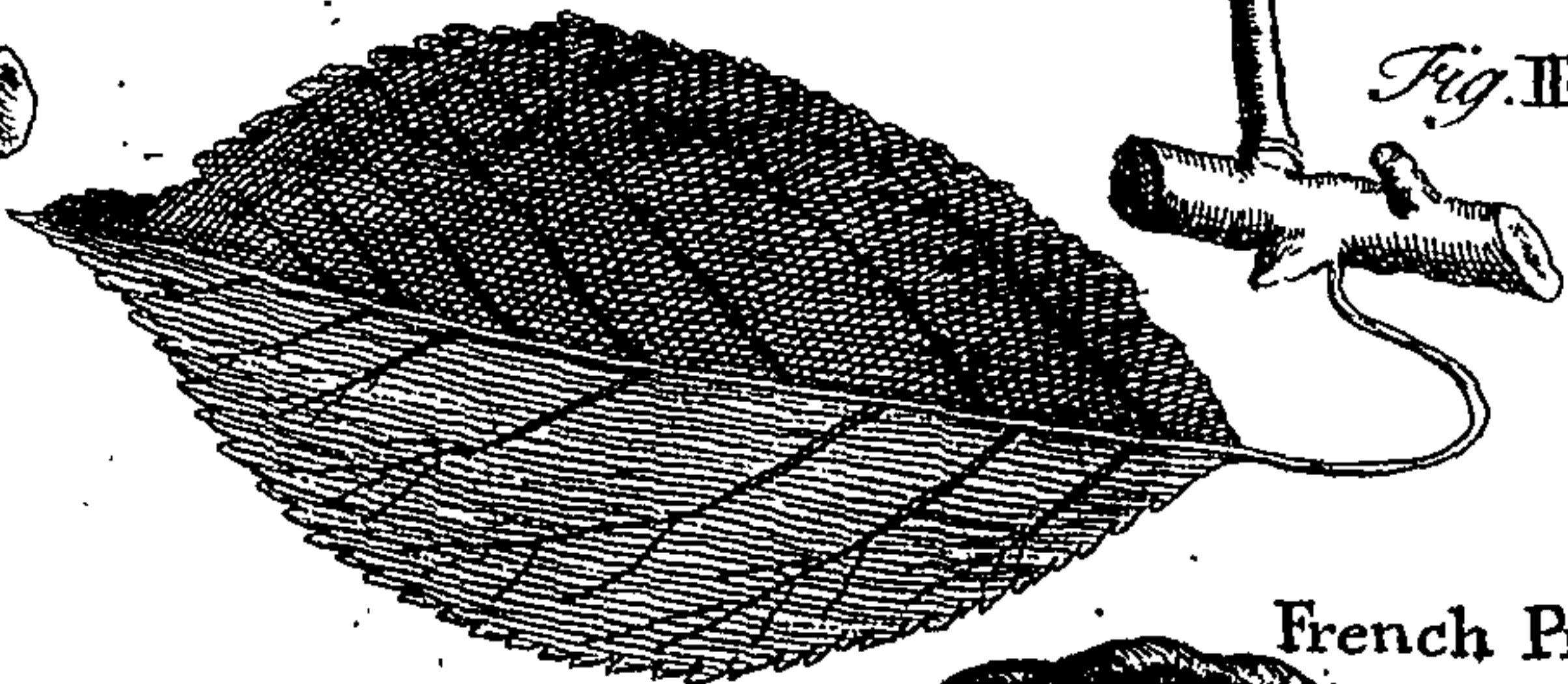
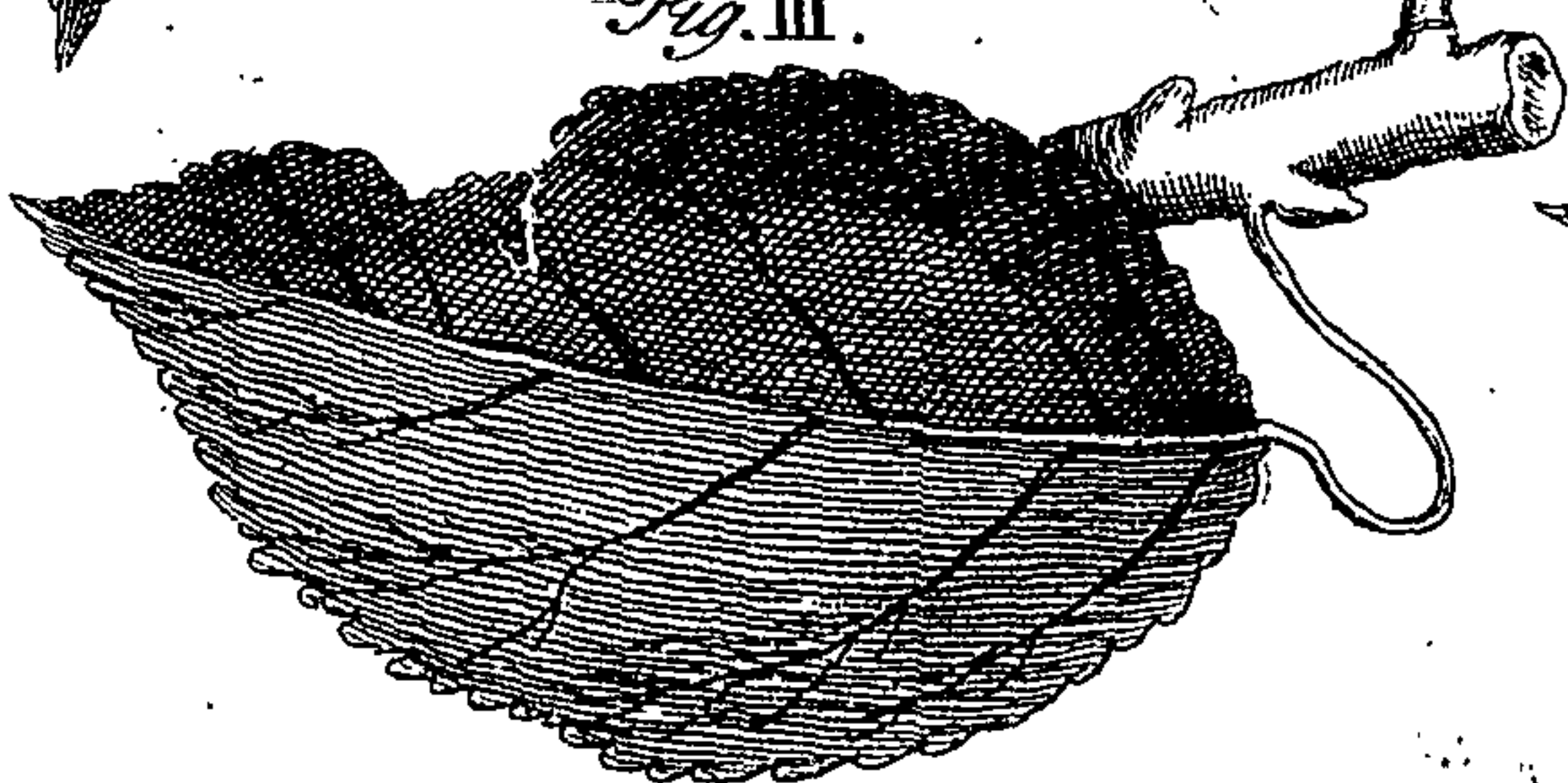


Fig. III.

Fig. III.



French Pippin

Francatir

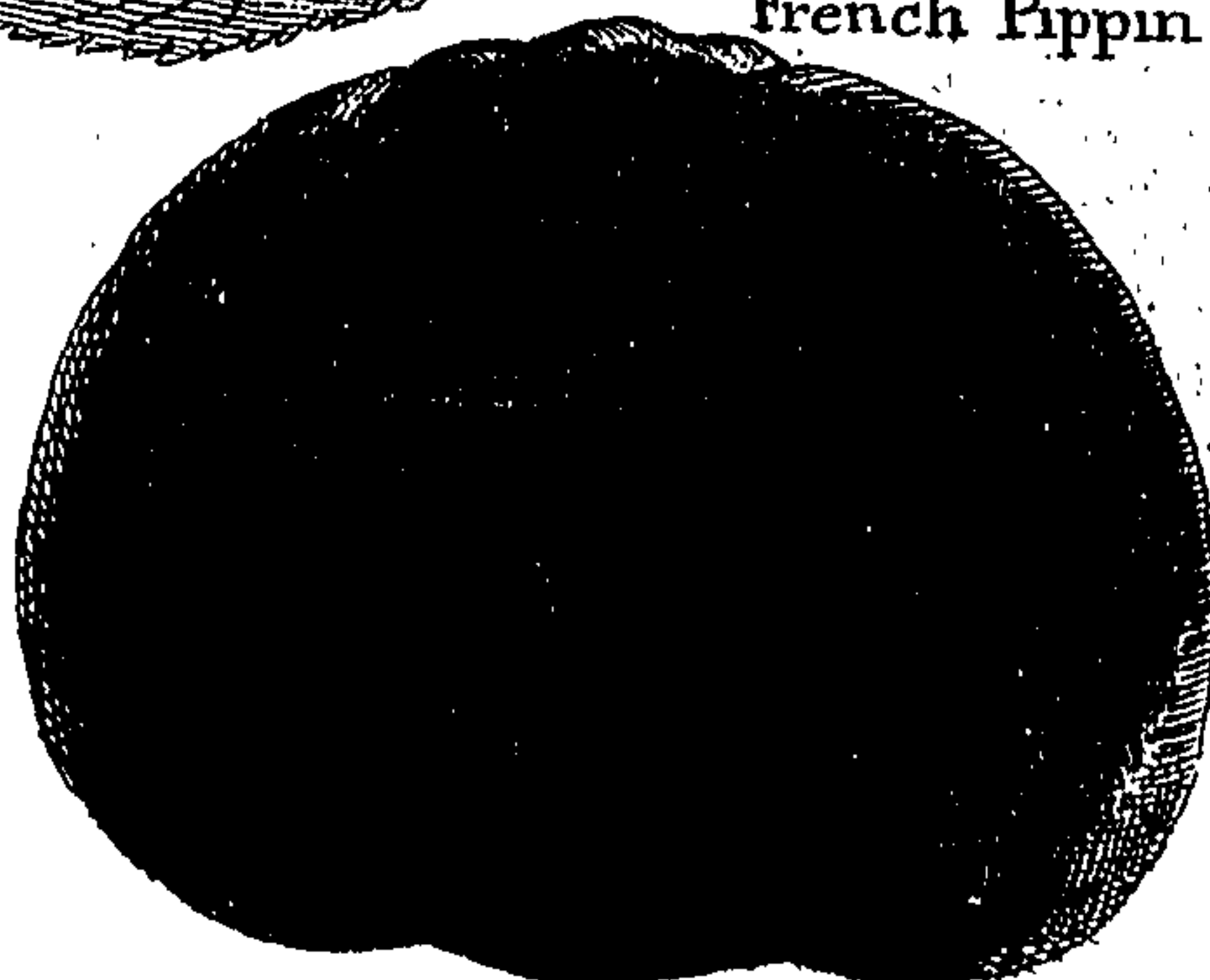
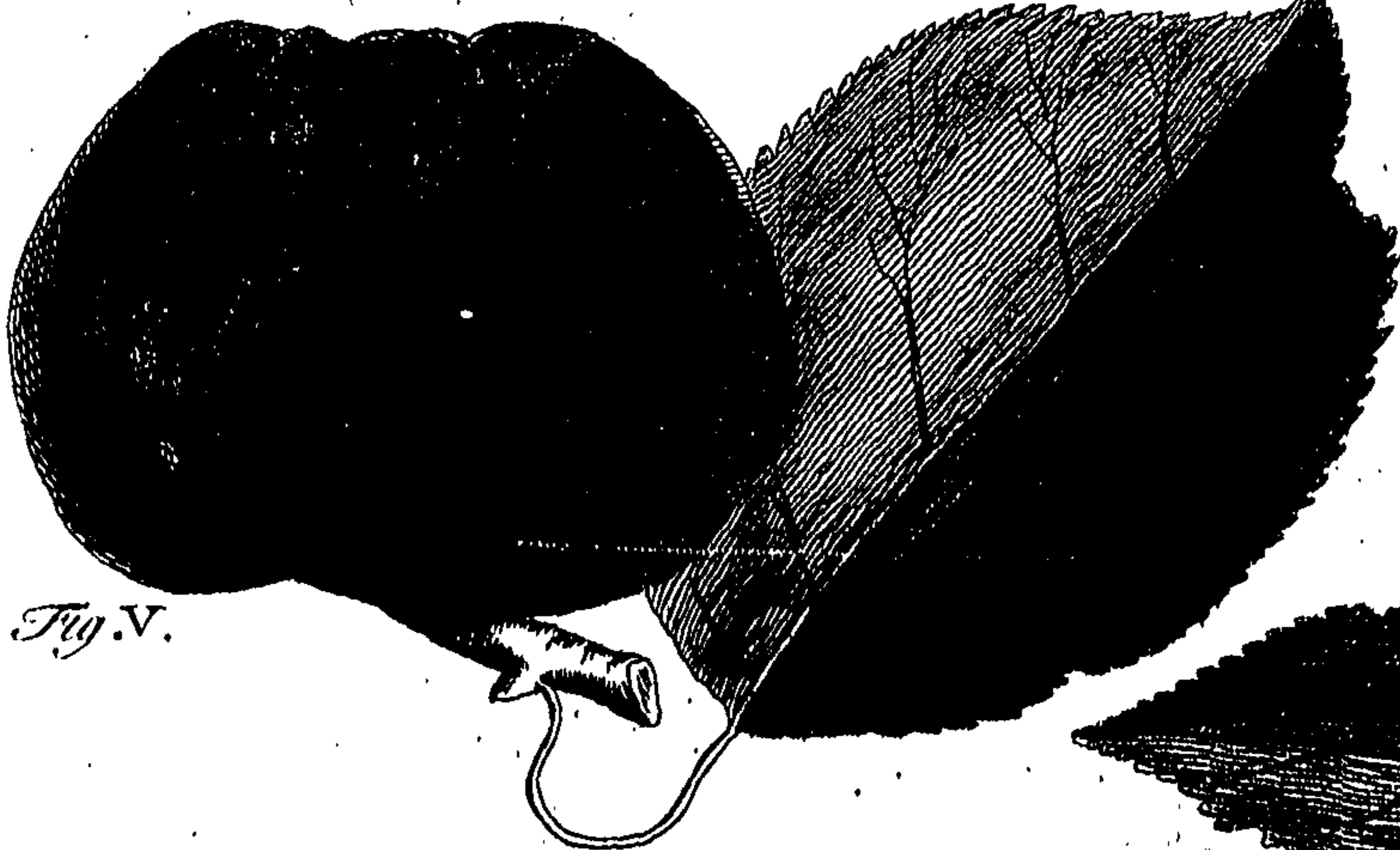


Fig. V.

Fig. VI.



Royal Wilding

Fig. I.

Fig. III.
white Sower

Meadiate

Fig. II.

Stone Pippin Fig. III.

Pear russet Apple
Fig. V.

Boft Apple from
Hanover

Fig. VI.

Pickering's
Pearmain

Fig. VII.

J. Garwicheam Sculp.

B. Langley Delin

Fig. I.

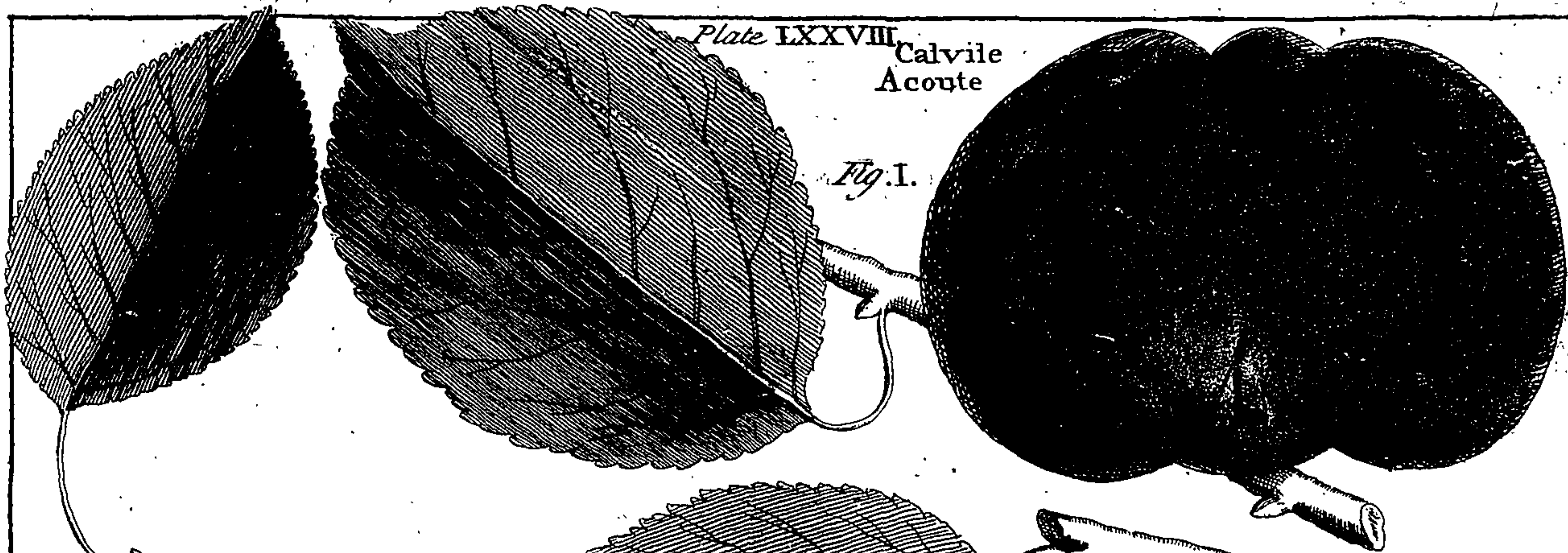


Fig. II.
Super-
Cælestial

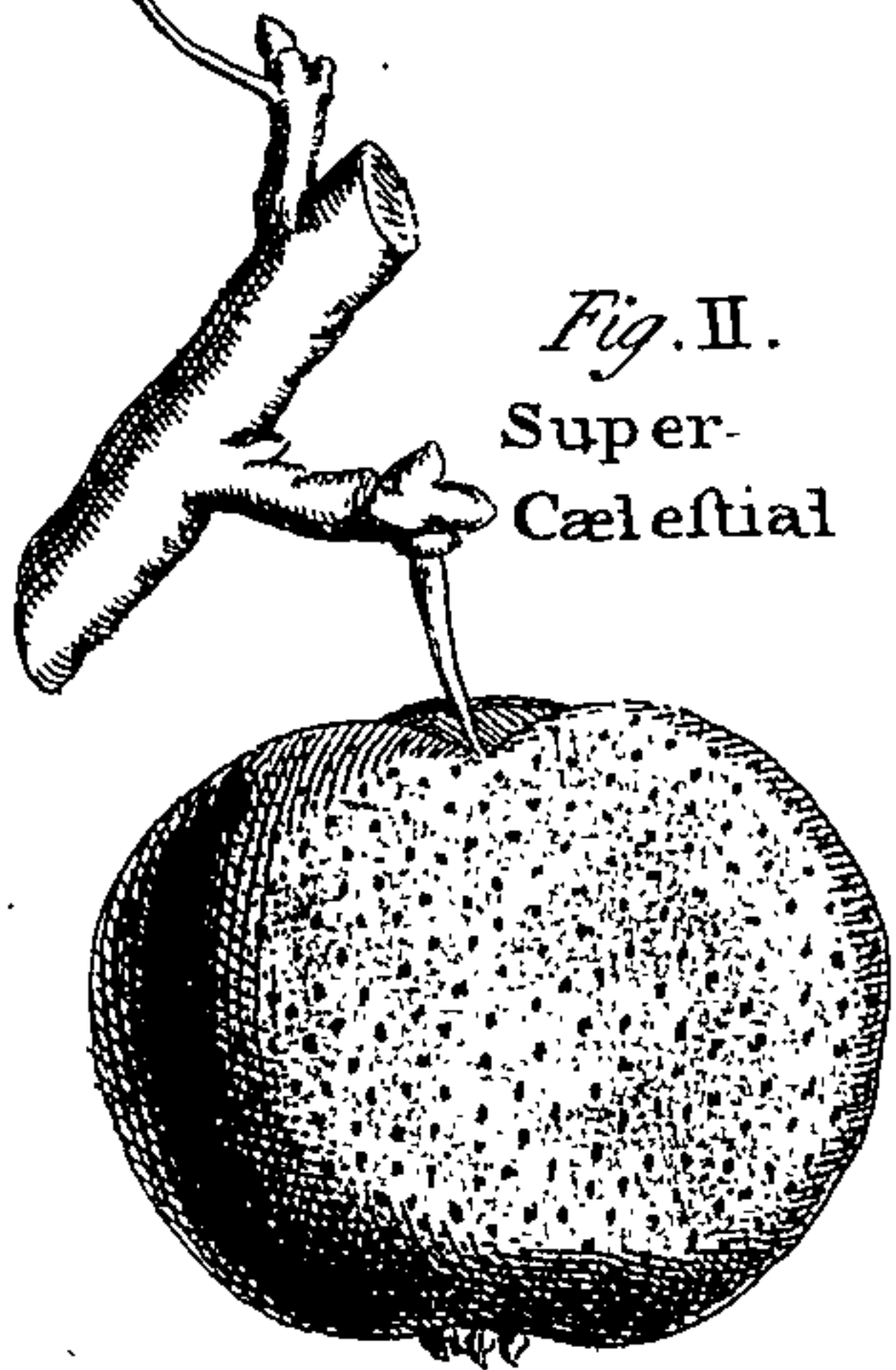
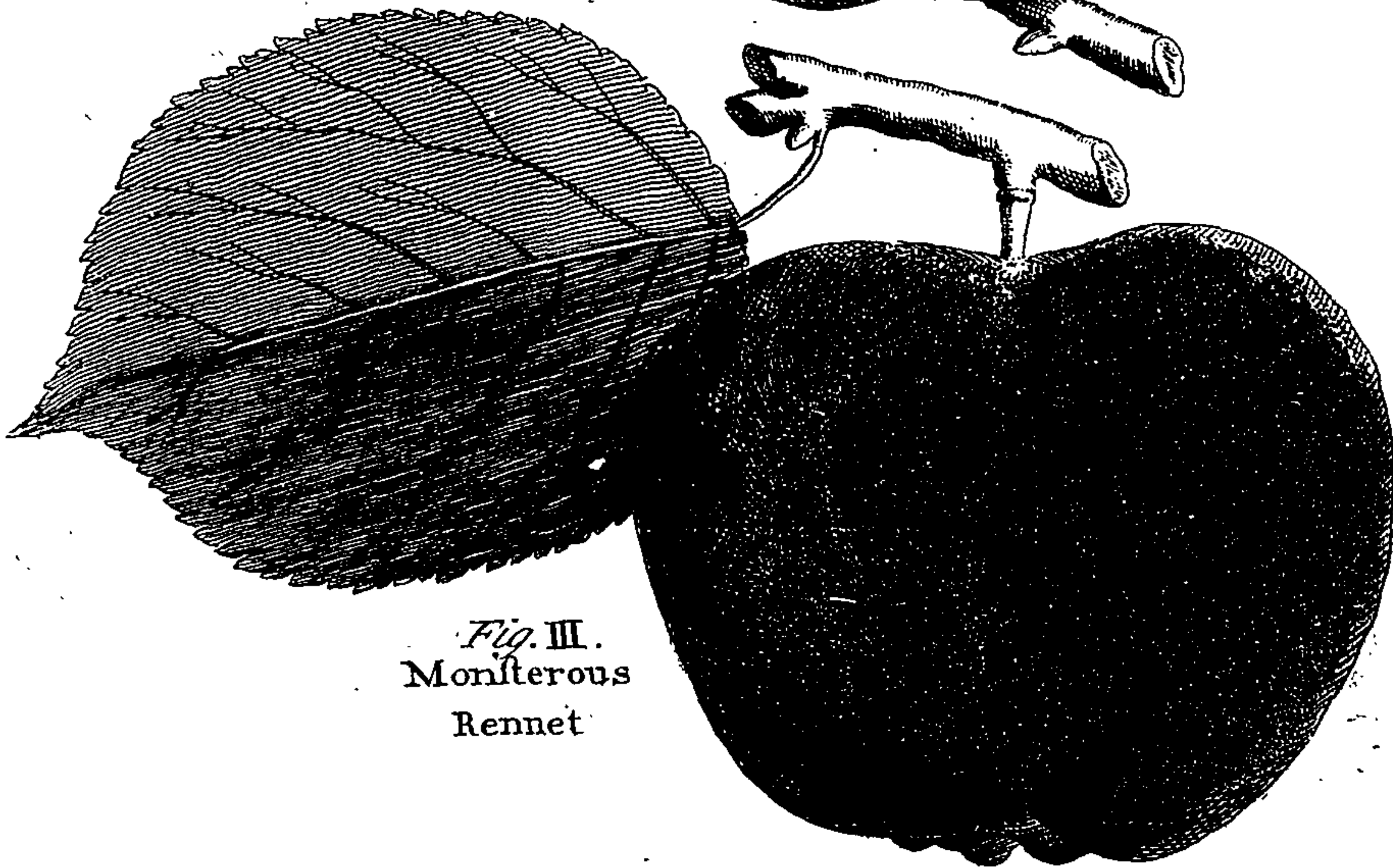
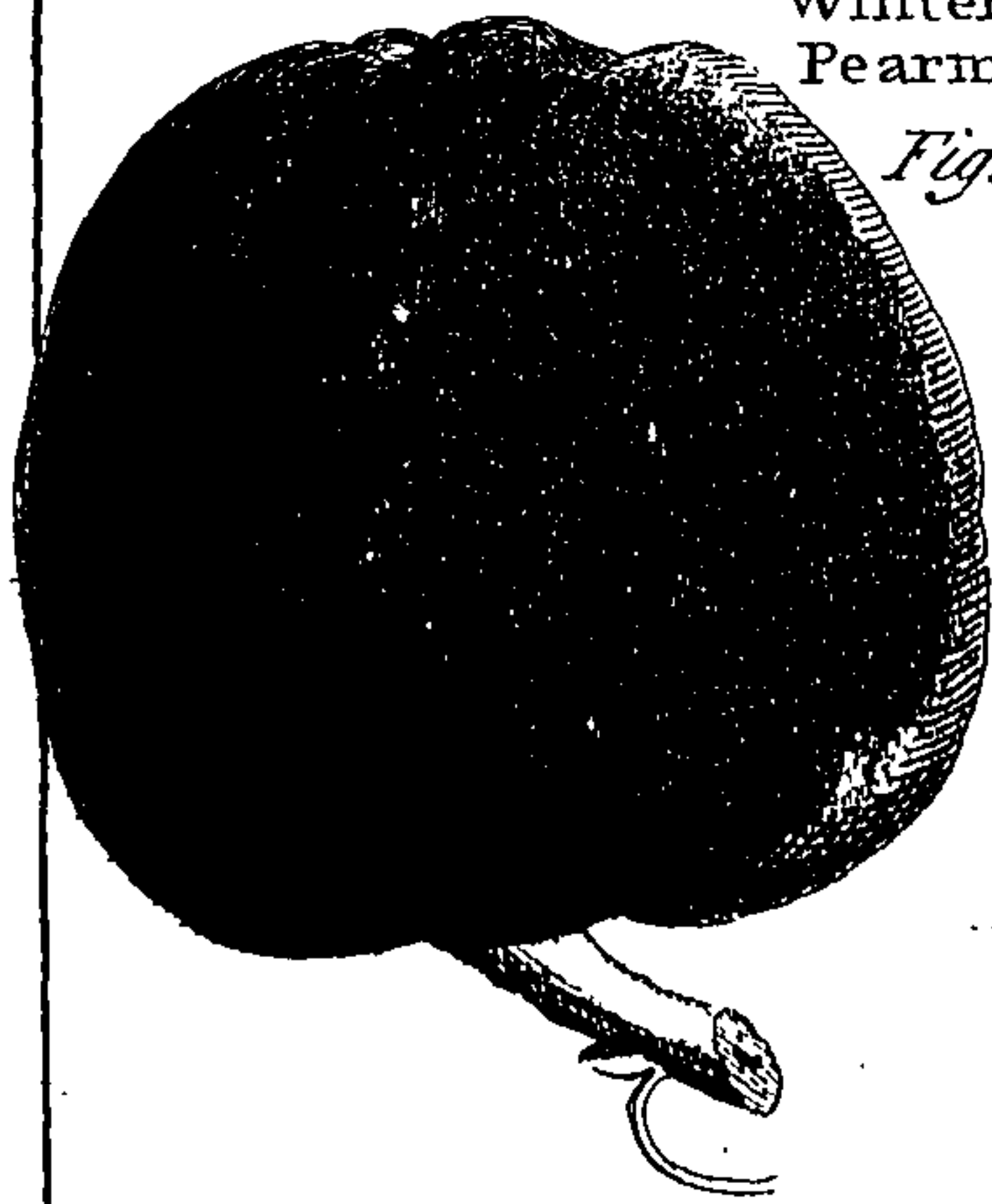


Fig. III.
Monstrous
Rennet

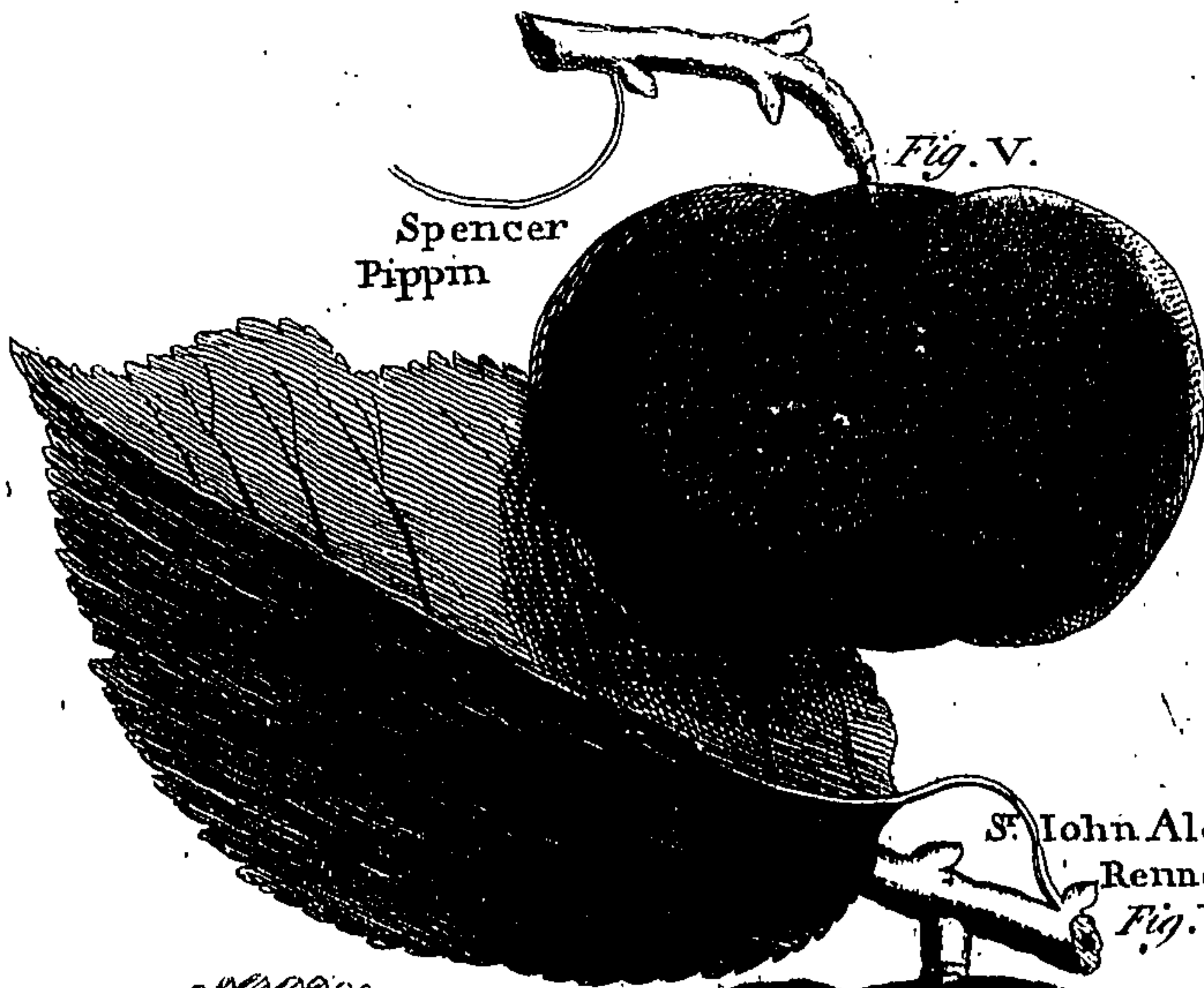


Winter
Pearmain
Fig. III.



Spencer
Pippin

Fig. V.



June Apple. Fig. VI.



St. John Aloes
Rennet
Fig. VII.

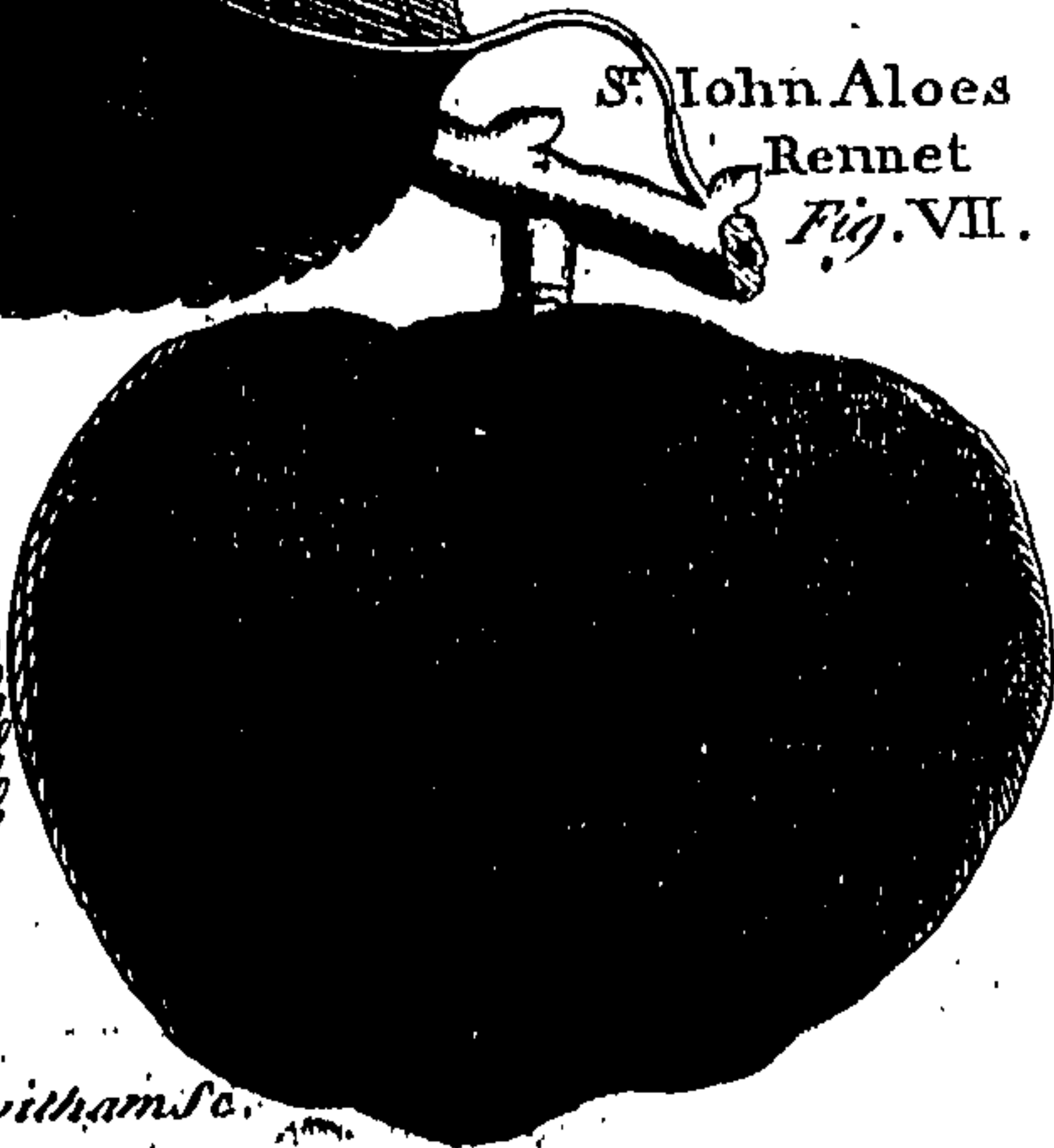
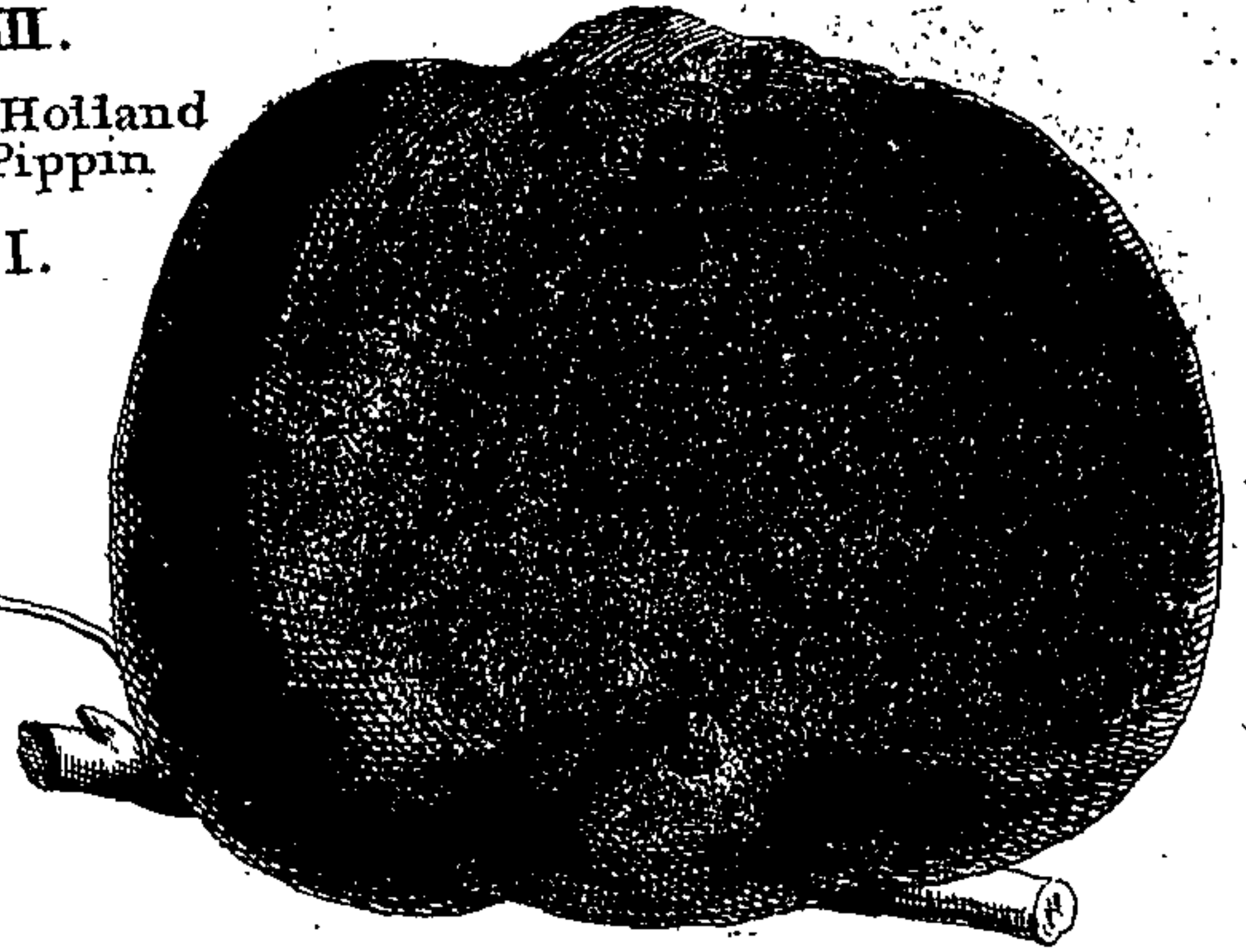


Plate LXXVIII.

Holland
Pippin

Fig. I.



Pome-roy
Fig. II.

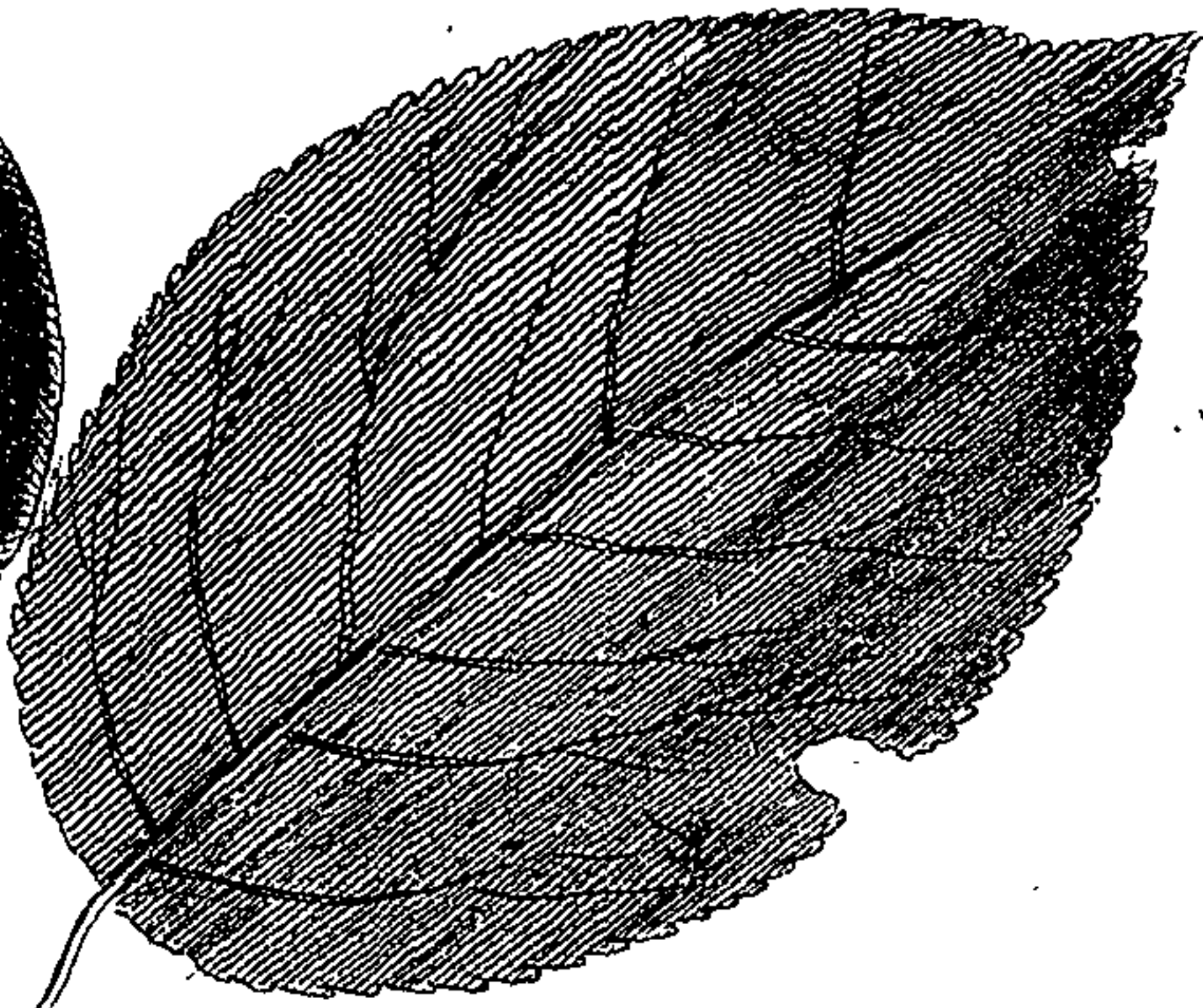
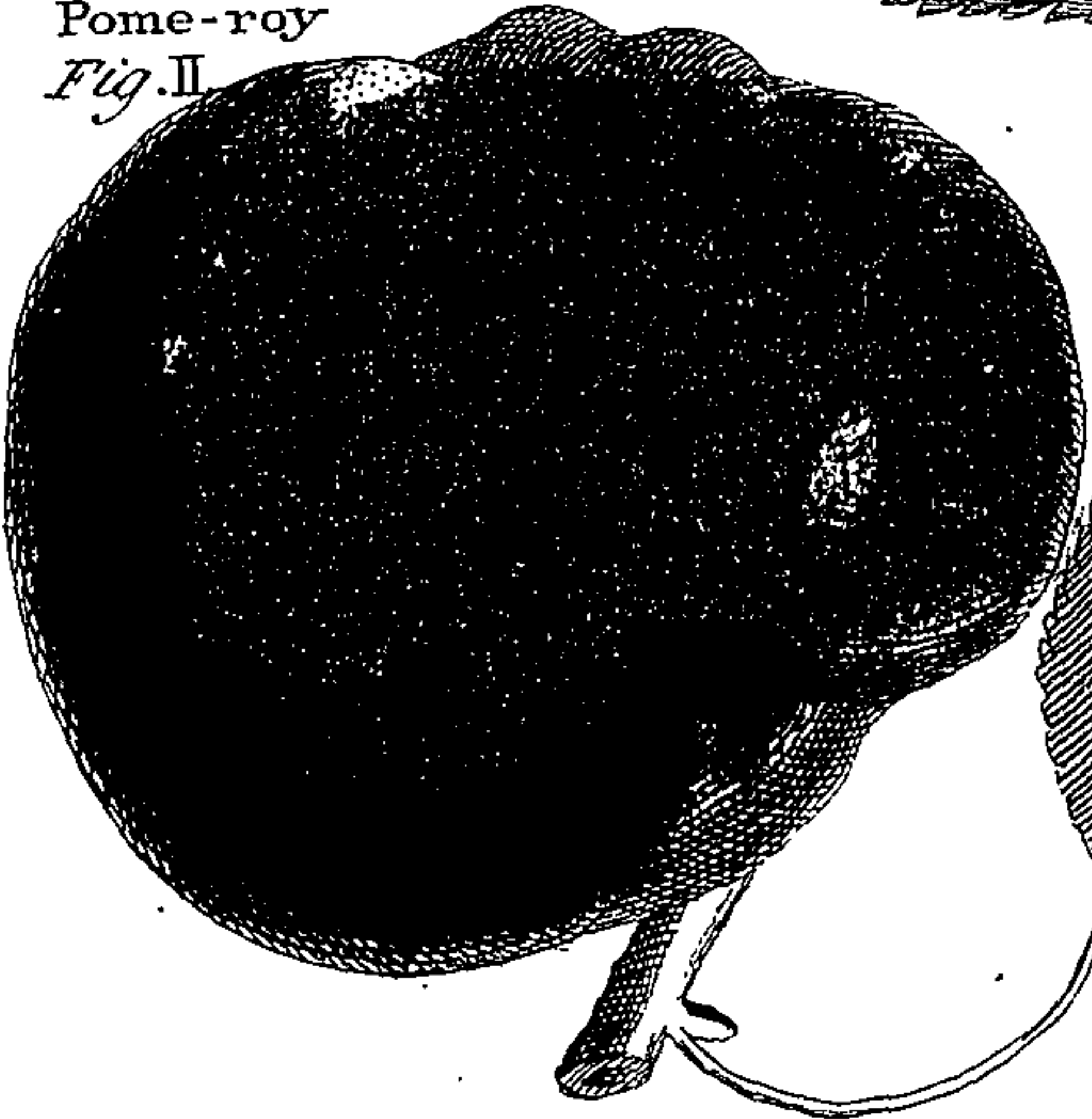
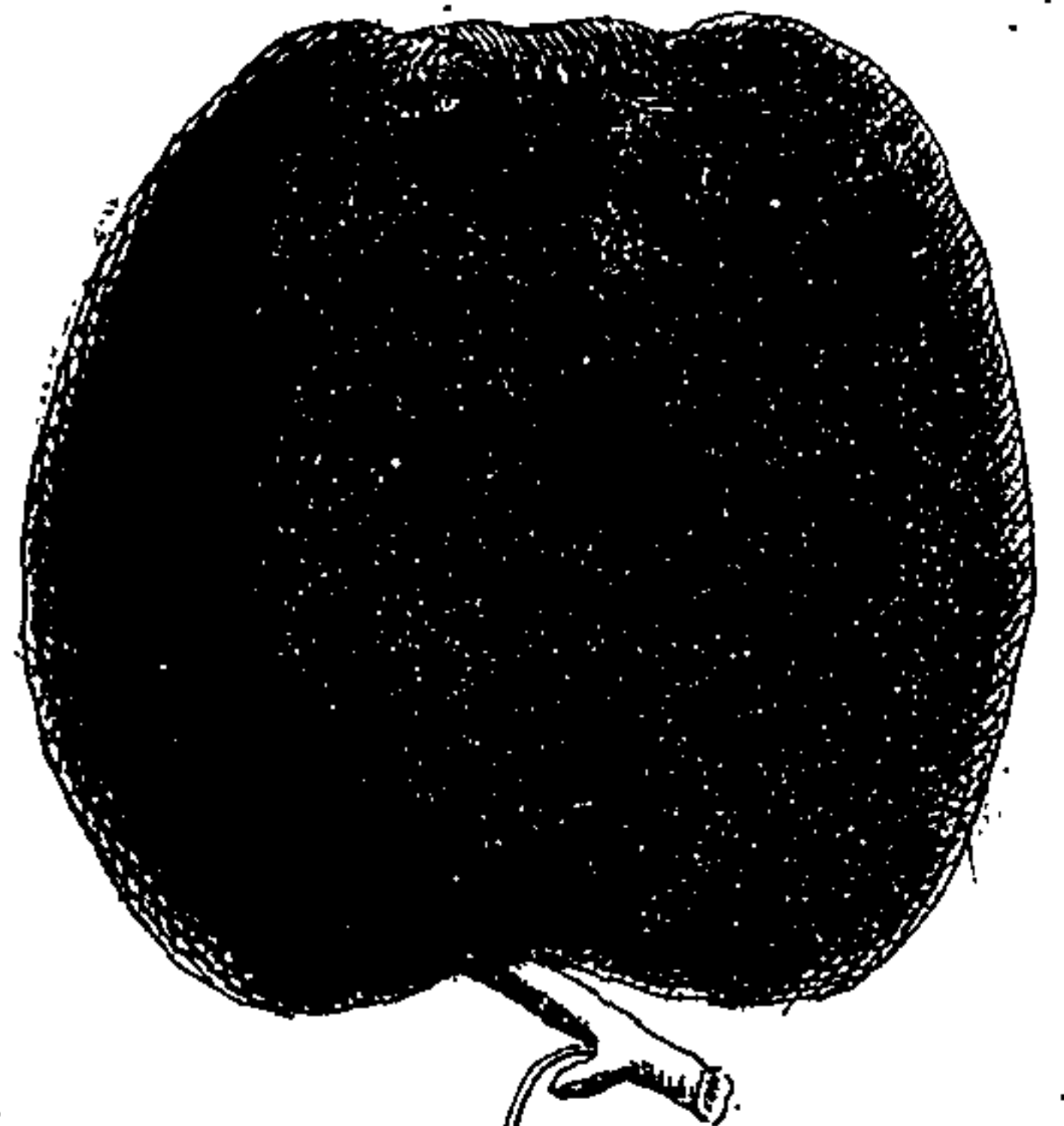
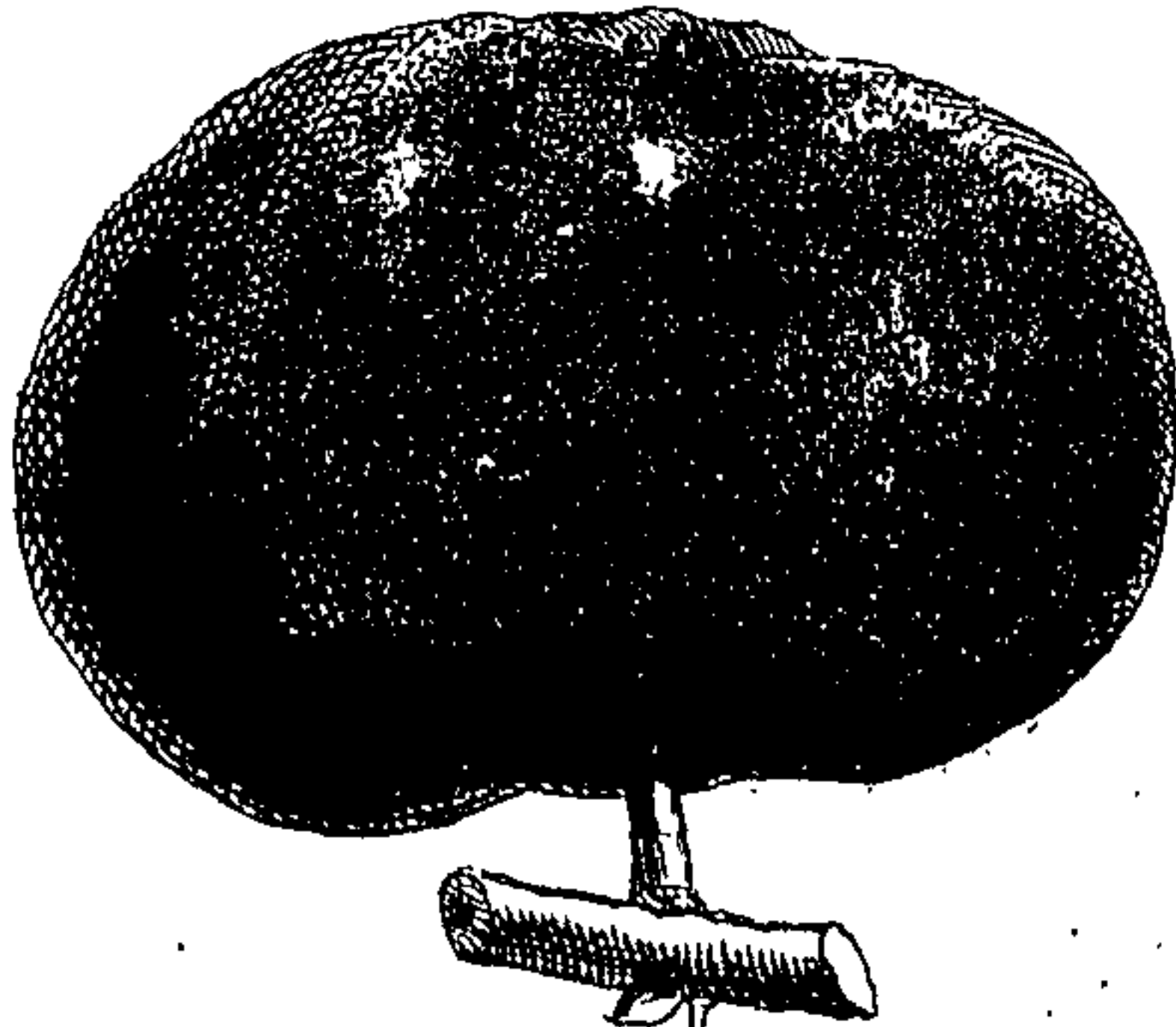


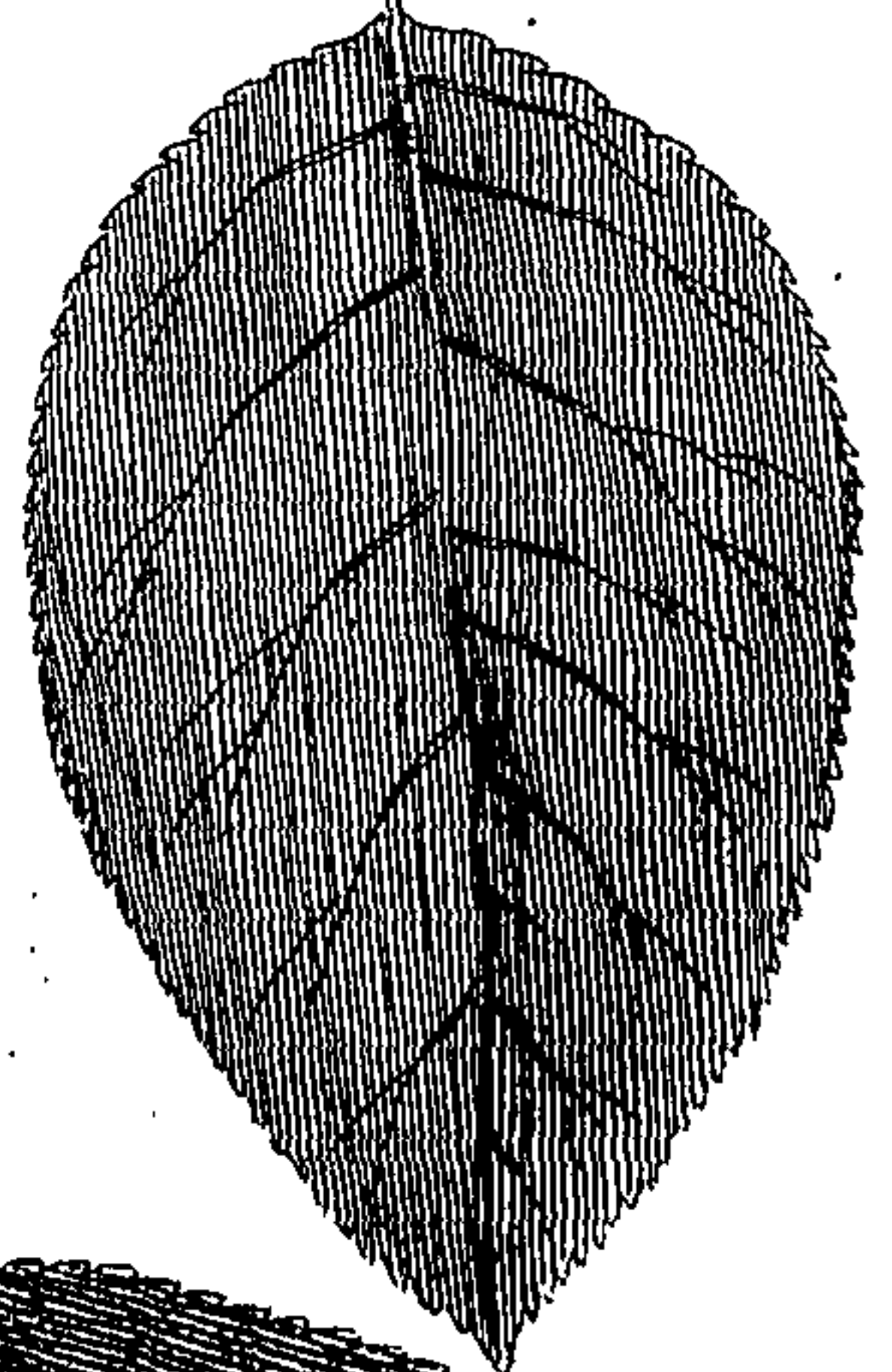
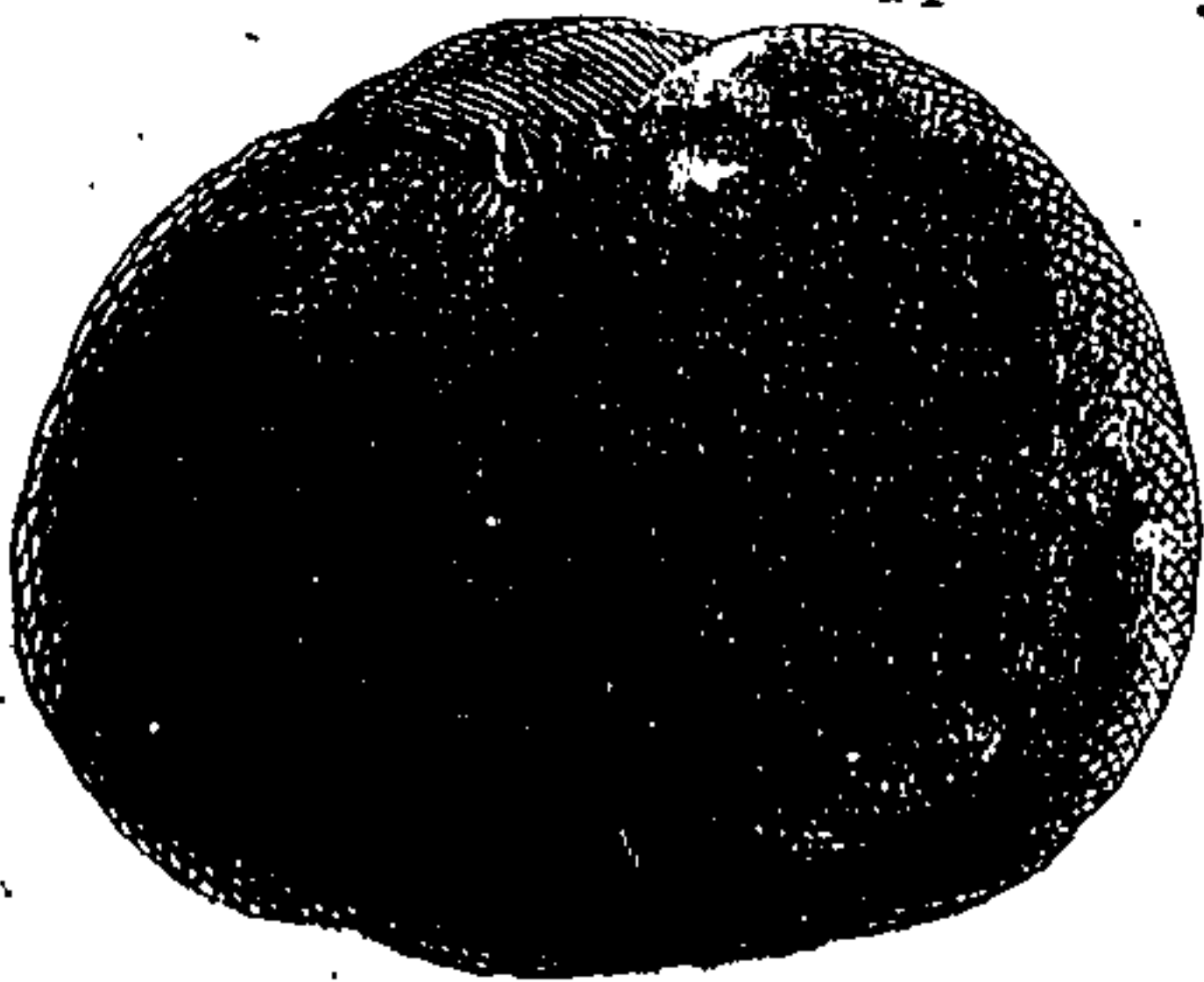
Fig. III.
Kentish Rennet



Non Pariel. Fig. III.



Russet Golden Pippin Fig. V.



Kentish Pippin
Fig. VI.

